

RUST Rust Environment & Infrastructure Inc.

A Rust International Company
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June 25, 1998

Serial Letter No. TERC1-19-0161 RD

Ms. Linda White, P.E.
Technical Project Manager
U.S. Army Corps of Engineers-Omaha District
ATTN: CENWO-ED-EA (White)
222 South 15th Street
Omaha, Nebraska 68102

Re: Gas Probe Monitoring Results for Landfills 2, 5, and 6 (April/May/June 1998)
Rust Project No. 55253.000 WBS Nos. 223, 231, and 321

Action Requested: None, For Information Only

Dear Linda:

Rust Environment & Infrastructure (Rust) is pleased to present gas probe monitoring results from Landfills 2, 5, and 6. The gas probes at Landfill 2 were monitored April 1, 15, 30, May 14, and June 8, while the gas probes at Landfill 5 and 6 were monitored April 1, May 14, and June 8, 1998. Rust personnel are scheduled to perform monitoring every two weeks during the construction of the landfill caps or monthly if the construction activities are delayed more than one month. The boring logs and well completion diagrams for the wells at all three landfills are enclosed as Attachments 1 and 2.

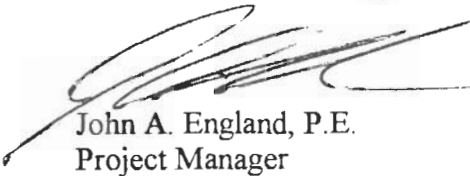
Four gas probe monitoring wells at Landfill 2, six gas probe monitoring wells at Landfill 5, and five gas probe monitoring wells at Landfill 6 were monitored. Sampling locations for Landfill 5 and 6 were submitted with the October 1997 monitoring report, and the sampling locations for Landfill 2 are illustrated on Figure 3. The gas residing at the sample port in the gas probe monitoring wells were analyzed for lower explosive limits (LEL), hydrogen sulfide (H₂S), methane, and pressure. The monitoring equipment was pre-calibrated with specified calibration gases before the sampling effort. All readings were allowed to peak and stabilize prior to recording the results. Field personnel operated under the OHM Site Specific Health and Safety Plan while performing the monitoring.

The results of the gas probe monitoring at Landfills 2, 5, and 6 are shown on Table 1. The results of the gas probe monitoring at Landfill 2 indicate an isolated detection of hydrogen sulfide at low levels in LF2-GP4 during the April 15, 1998 monitoring event. The results of the gas probe monitoring at Landfill 5 continue to show elevated readings at LF5-GP4, which are likely a result of the well being installed directly in the landfill debris. The results of the gas probe monitoring at Landfill 6 continue to show no significant detections throughout our sampling efforts.

Ms. Linda White
June 25, 1998
Page 2

Please do not hesitate to contact me at (303) 694-6660 if you have any questions or require further information.

Sincerely,
RUST ENVIRONMENT & INFRASTRUCTURE



John A. England, P.E.
Project Manager

Enclosures

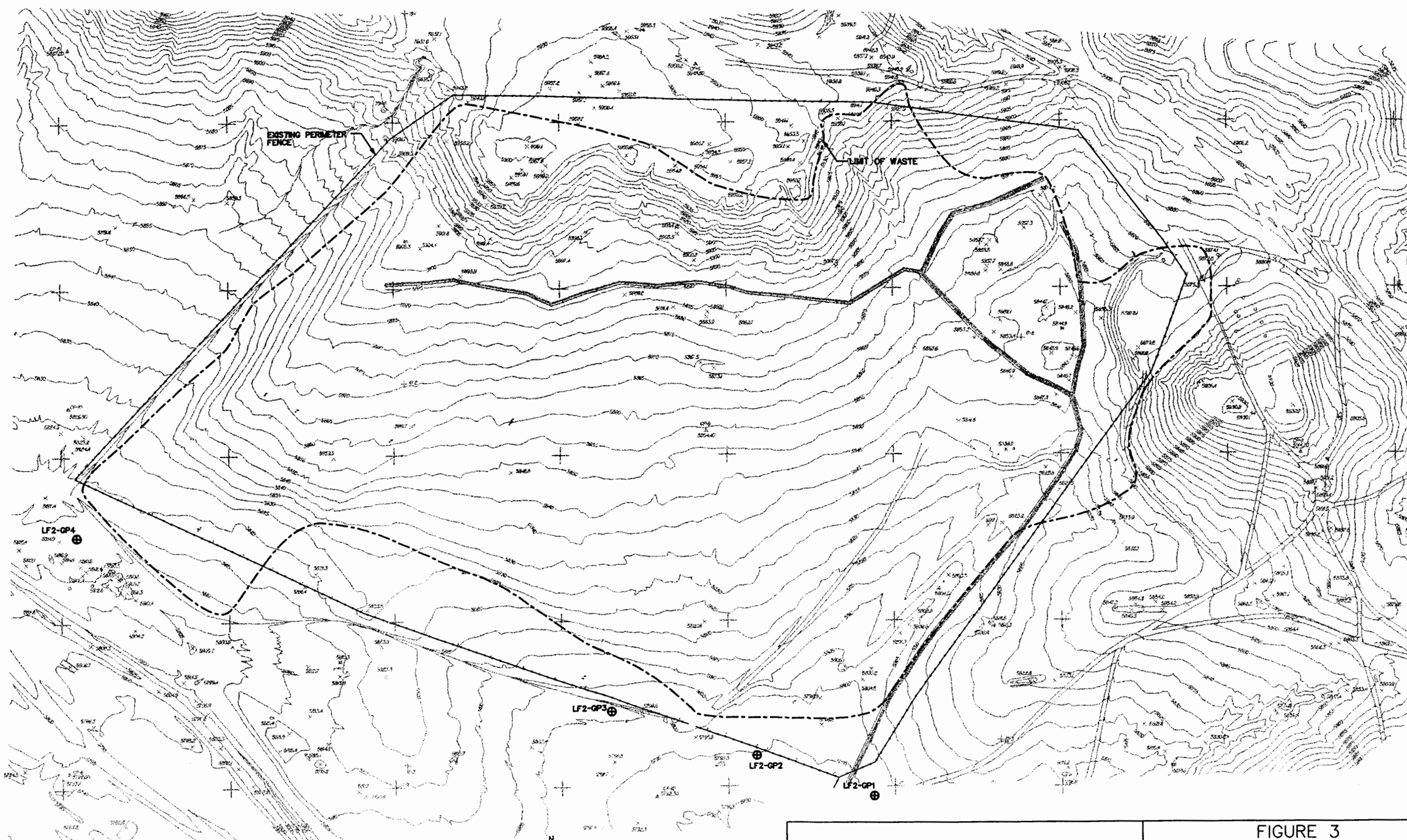
cc: Mr. Jim Henderson/DECAM
Martin Rasmussen/USACE
Mark Scott/Rust
Craig Davis/Rust
File

TABLE

TABLE 1
LANDFILL GAS PROBE MONITORING
FORT CARSON, COLORADO

Sample ID	Date	LEL (%)	H2S (ppm)	Methane (%)	Air Pressure (in/H2O)
Landfill 2					
LF2-GP1	4/1/98	0	0.0	0	0.05
	4/15/98	0	0.0	0	0.04
	4/30/98	0	0.0	<0.1	0.05
	5/14/98	0	0.0	0	0.06
	6/8/98	0	0.0	0	0.04
LF2-GP2	4/1/98	0	0.0	<0.1	0.00
	4/15/98	0	0.0	<0.1	0.01
	4/30/98	0	0.0	<0.1	0.03
	5/14/98	0	0.0	<0.05	0.07
	6/8/98	0	0.0	<0.05	0.02
LF2-GP3	4/1/98	0	0.0	0	0.01
	4/15/98	0	0.0	0	0.01
	4/30/98	0	0.0	<0.1	0.01
	5/14/98	0	0.0	0	0.00
	6/8/98	0	0.0	<0.05	0.01
LF2-GP4	4/1/98	0	0.0	0	0.01
	4/15/98	0	0.5	0	0.00
	4/30/98	0	0.0	0	0.02
	5/14/98	0	0.0	0	0.03
	6/8/98	0	0.0	0	0.00
Landfill 5					
LF5-GP1	4/1/98	0	0.0	0	0.01
	5/14/98	0	0.0	0	0.02
	6/8/98	0	0.0	0	0.01
LF5-GP2	4/1/98	0	0.0	0	0.00
	5/14/98	0	0.0	0	0.04
	6/8/98	0	0.0	0	0.05
LF5-GP3	4/1/98	0	0.0	<0.1	0.00
	5/14/98	0	0.0	<0.05	0.03
	6/8/98	0	0.0	0	0.00
LF5-GP4	4/1/98	40	1.0	1.5	0.00
	5/14/98	51	0.0	2.6	0.05
	6/8/98	67	0.0	0.8	0.01
LF5-GP5	4/1/98	0	0.0	0.1	0.01
	5/14/98	0	0.0	0.2	0.02
	6/8/98	0	0.0	<0.05	0.01
LF5-GP6	4/1/98	0	0.0	<0.1	0.05
	5/14/98	0	0.0	<0.05	0.13
	6/8/98	0	0.0	0	0.05
Landfill 6					
LF6-GP1	4/1/98	0	0.0	<0.1	0.00
	5/14/98	0	0.0	0.1	0.03
	6/8/98	0	0.0	0.1	0.01
LF6-GP2	4/1/98	0	0.0	0	0.00
	5/14/98	0	0.0	0	0.01
	6/8/98	0	0.0	0	0.00
LF6-GP3	4/1/98	0	0.0	<0.1	0.00
	5/14/98	0	0.0	0	0.02
	6/8/98	0	0.0	<0.05	0.00
LF6-GP4	4/1/98	0	0.0	<0.1	0.00
	5/14/98	0	0.0	<0.05	0.00
	6/8/98	0	0.0	<0.05	0.00
LF6-GP5	4/1/98	0	0.0	<0.1	0.00
	5/14/98	0	0.0	<0.05	0.01
	6/8/98	0	0.0	0	0.00

FIGURE

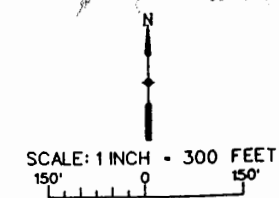


LEGEND

- LIMIT OF WASTE
- × SURVEY CONTROL POINT
- ⊕ LOCATION OF GAS MONITORING PROBE

NOTES:

1. NO KNOWN UTILITIES EXIST WITHIN THE AREA OF THE DRAWING SHOWN.
 2. HORIZONTAL COORDINATES ARE MODIFIED STATE PLANE COORDINATES COLORADO CENTRAL ZONE BASED ON NAD83 WITH A DATUM ADJUSTMENT FACTOR OF 1.00026853 ELEVATIONS SHOWN ARE MEAN SEA LEVEL NAVD88 CONTROL BY MONTGOMERY-PHILLIPS, INC.
- DATE OF PHOTOGRAPHY: DECEMBER 14, 1994
 PHOTO SCALE: 1:3600'



RUST ENVIRONMENT & INFRASTRUCTURE

FIGURE 3

GAS MONITORING PROBE LOCATIONS

LANDFILL No.2
 FORT CARSON, COLORADO
 U.S. ARMY CORPS OF ENGINEERS

ATTACHMENT 1

HTW DRILLING LOG

HOLE NO.
LF2-GP1

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT 55253.000.223		4. LOCATION Landfill 2, S of FEMW 75/75, Fort Carson, CO			
5. NAME OF DRILLER Dennis Edelmann		6. MANUFACTURERS DESIGNATION OF DRILL CME 75			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION Ncrthing:1330470.884390, Easting:3211437.401700, NAD83/92			
CME 75 w/ 3.25" ID HSA and Continuous Core Sampler 5.0ft. long.		9. SURFACE ELEVATION 5796.026108 feet			
		10. STARTED DATE: 2/19/98 TIME: 0830		11. COMPLETED DATE: 2/19/98 TIME: 1130	
12. OVERBURDEN THICKNESS 11 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: NA feet DATE: TIME:			
13. DEPTH DRILLED INTO ROCK 8 feet		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 19.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
19. TOTAL NUMBER OF CORE BOXES NA					
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA		METALS NA	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
21. TOTAL CORE REC. NA					
22. DISPOSITION OF HOLE		BACKFILLED NA		MONITORING WELL YES	
		OTHERS (SPECIFY) NA		23. INSPECTOR J.E. Gillespie	

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS- RECOVERY	REMARKS
a	b	c	d	e	f	g	h
1	CL	CLAY WITH GRAVEL (CL) Stiff, Dry, Olive (2.5Y 4/3), Mostly clay, little to some fine rounded gravel. ALLUVIAL/FILL MATERIAL	No Readings OVM Multigas				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
4	CL	CLAY (CL) Stiff to Medium, Moist, Olive (2.5Y 4/3), Mostly clay (Fat Clay), little very fine sand/silt, slightly plastic at 9ft.	No Readings OVM Multigas				
9							

PROJECT: 55253.000.223

HOLE NO.: LF2-GP1

HTW DRILLING LOG

HOLE NO.
LF2-GP1

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J.E. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
10	ML	<u>SILT (ML)</u> Medium, Moist, Olive (2.5Y 4/3), Mostly silt, little very fine sand, Blocky texture, contaminated, Weathered Pierre Shale; Note: Massive Texture @ 14ft.	No Readings OVM 580 B Multigas				At 11 ft. contact Weathered Pierre
11							
12							
13							
14	ML	<u>SAME AS 9-14 FT.</u> Weathered Pierre, 45 degree intersectin fractures, little visble water/moist water table fluctuates in this area.					
15							
16							
17							
18							
19		<u>BOTTOM OF EXPLORATION @ 19FT.</u> Install 1" SCHD 40 slotted screen 10 ft, 8.5 - 18.5.					
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: 55253.000.223

HOLE NO.: LF2-GP1

HTW DRILLING LOG

HOLE NO.
LF2-GP2

1. COMPANY NAME
RUST Environment and Infrastructure

2. DRILLING SUBCONTRACTOR
Site Services, Inc.

SHEET 1
OF 2 SHEETS

3. PROJECT
55253.000.223

4. LOCATION
Landfill 2, Fort Carson, CO

5. NAME OF DRILLER
Dennis Edlemann

6. MANUFACTURERS DESIGNATION OF DRILL
CME 75

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
CME 75 w/ 3.25" HSA
Continuous Sampler

8. HOLE LOCATION
Northing:1330592.731140, Easting:3211083.904840, NAD83/92

9. SURFACE ELEVATION
5794.661806 feet

10. STARTED
DATE: 2/18/98 TIME: 1530

11. COMPLETED
DATE: 2/18/98 TIME: 1730

12. OVERBURDEN THICKNESS
14 feet

15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE)
DEPTH: NA feet DATE: 2/18/98 TIME: 1630

13. DEPTH DRILLED INTO ROCK
Not encountered

16. DEPTH TO WATER AND TIME MEASURED
DEPTH: NA feet DATE: TIME:

14. TOTAL DEPTH OF HOLE
14 feet

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
None

18. SAMPLES FOR GEOTECHNICAL TESTING
DISTURBED NA UNDISTURBED NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
VOC NA METALS NA OTHER (SPECIFY) NA OTHER (SPECIFY) NA OTHER (SPECIFY) NA

21. TOTAL CORE REC.
NA

22. DISPOSITION OF HOLE
BACKFILLED NA MONITORING WELL YES OTHERS (SPECIFY) NA

23. INSPECTOR
J.E. Gillespie

24. DEPTH
a

25. USCS
b

26. DESCRIPTION OF MATERIALS
c

27. FIELD SCREENING RESULTS (ppm)
d

28. GEOTECH SAMPLE OR CORE BOX NO.
e

29. ANALYTICAL SAMPLE NO.
f

30. BLOW COUNTS-RECOVERY
g

31. REMARKS
h

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS-RECOVERY g	REMARKS h
1	CL	CLAY (CL) Stiff, Dry, Olive Brown (2.5Y 4/3), Mostly clay with little fine gravel, very fine sand.	No Readings OVM Multigas				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
2	ML	SILT (ML) Dense - Med. Dense, Dry - Moist, Olive Brown (2.5Y 4/3), Mostly silt, little very fine sand, trace fine gravel with white precip. throughout core.					
3							
4	ML	SILT (ML) Same as above, massive, no structure.					
5							
6			No Readings OVM Multigas				
7							
8		Note: Moist, plastic at 8ft, No visible water, Fat Clay.					
9							

PROJECT: 55253.000.223

HOLE NO.: LF2-GP2

HTW DRILLING LOG

HOLE NO.
LF2-GP2

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J.E. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
11	ML	SILT WITH SAND & GRAVEL (ML/GM) Loose, Moist, Olive Brown, Mostly silt, some very fine to coarse sand, trace fine gravel. -ALLUVIAL-	No Readings OVM Multigas				
13	ML	SILT (ML) Dense, Dry, Olive (5Y 3/4), Mostly silt, massive little very fine sand.					
14		BOTTOM OF EXPLORATION @ 14 ft. Set 1" 5.0' screen.					
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: 55253.000.223

HOLE NO.: LF2-GP2

HTW DRILLING LOG

HOLE NO.
LF2-GP3

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT 55253.000.223		4. LOCATION LF2-GP3 near FCMW77, Fort Carson, CO			
5. NAME OF DRILLER Dennis Edelmann		6. MANUFACTURERS DESIGNATION OF DRILL CME 75			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	CME 75 w/ 3.25" ID HSA		8. HOLE LOCATION Northing:1330727.591290, Easting:3210646.598100, NAD83/92		
	Continuos Sampler		9. SURFACE ELEVATION 5801.485104 feet		
			10. STARTED		
			11. COMPLETED		
12. OVERBURDEN THICKNESS 12 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE)		DATE: 2/18/98 TIME: 1100	
13. DEPTH DRILLED INTO ROCK 12 feet		DEPTH: NA feet		DATE: TIME:	
14. TOTAL DEPTH OF HOLE 24.0 feet		16. DEPTH TO WATER AND TIME MEASURED		DATE: TIME:	
		DEPTH: Null feet		DATE: TIME:	
		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
19. TOTAL NUMBER OF CORE BOXES		NA			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
	NA	NA	NA	NA	NA
21. TOTAL CORE REC.	NA				
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHERS (SPECIFY)	23. INSPECTOR	
	NA	YES	NA	J.E. Gillespie	

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS- RECOVERY	REMARKS
a	b	c	d	e	f	g	h
		GRASS TOP SOIL.					
1	CL	CLAY (CL) Stiff, Dry, olive Brown (2.5Y 4/3), Mostly clay, trace fine sand, little angular fine gravel.					Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
2	ML	-SOIL-	No Readings Multigas				
3		SILT (ML) Dense - Med. Dense, Dry, Olive Brown (2.5Y 4/3), Mostly silt, some very fine sand, trace fine angular gravel; Note: Blocky at 3-4ft. Weathered.					
4	ML	Same As Above.					
5							
6			No Readings Multigas				
7							
8		SILT W/GRAVEL (ML/GM) Medium to loose, Dry, Olive Brown (2.5Y 4/3), Mostly silt, some angular gravel.					
9		Severely Weathered Pierre, Blocky silty w/ very fine sand, Dry, Hard drilling.					
	ML						

PROJECT: 55253.000.223

HOLE NO.: LF2-GP3

HTW DRILLING LOG

HOLE NO.
LF2-GP3

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J.E. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
10	ML	SILT (ML) Dense, Dry, Olive Brown (2.5Y 4/3), Mostly silt, trace to little very fine sand, blocky breaking.					
11							
12		Note: Becoming hard, compacted, olive (5Y4/4), Orange stained fracture @ 13ft, thin, less than 1" horizontal, laminated.	No Readings Multigas				12 ft contact Weathered Pierre
13							
14		Blocky pattern w/ 45 degree intersection fractures.					
15							
16		Horizontal laminate, orange stain fractures.	No Readings Multigas				
17		Dark Olive (5Y3/4); Intersecting 45 degree fractures w/white precipitate along fracture.					
18							
19		Grinding @ 19ft. Blue gray, hard w/orange staining horizontal laminate.					
20							
21		Orange Stained fracture horizontal.	No Readings Multigas				
22		Same material as 14 -19 ft.					
23		Orange stained horizontal fracture.					
24		<u>BOTTOM OF EXPLORATION</u> @ 24ft. Set 1" .020 slot screen, 13.5 - 23.5 ft.					
25							
26							
27							
28							

PROJECT: 55253.000.223

HOLE NO.: LF2-GP3

HTW DRILLING LOG

HOLE NO.
LF2-GP4

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT 55253.000.223			4. LOCATION Landfill 2 Northern Boundary, Fort Carson, CO		
5. NAME OF DRILLER Dennis Edelmann			6. MANUFACTURERS DESIGNATION OF DRILL CME 75		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		CME 75 w/ 3.25" ID HSA		8. HOLE LOCATION Northing:1331258.65430, Easting:3209045.008080, NAD83/92	
		Continuous Core Barrel		9. SURFACE ELEVATION 5812.358462 feet	
		Sampler		10. STARTED DATE: 2/19/98 TIME: 1100	
				11. COMPLETED DATE: 2/19/98 TIME: 1300	
12. OVERBURDEN THICKNESS 5.5 feet			15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: NA feet DATE: TIME:		
13. DEPTH DRILLED INTO ROCK 18.5 feet			16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA feet DATE: TIME:		
14. TOTAL DEPTH OF HOLE 24.0 feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None		
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
21. TOTAL CORE REC. NA					
22. DISPOSITION OF HOLE		BACKFILLED NA	MONITORING WELL YES	OTHERS (SPECIFY) NA	23. INSPECTOR J.E. Gillespie

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
0	ML	SILT (ML) Dense - Med. Dense, Dry, Olive (2.5Y4/3), mostly silt, some very fine sand, little granitic gravels, fine.					Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
1							
2							
3							
4	ML	-FILL MATERIAL-					
5		Note: Same as 0-4, except some angular gravel, loose crumbles dry.					
6		SILT (ML) Dense, Dry, Olive (2.5Y4/3), Mostly silt, blocky fracture pattern laminated, semi-consolidated hard.					At 5.5 ft., Weathered Pierre Shale
7							
8		-WEATHERED PIERRE-					
9							
10	ML						

PROJECT: 55253.000.223

HOLE NO.: LF2-GP4

HTW DRILLING LOG

HOLE NO. LF2-GP4

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J.E. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
11	ML	<u>SAME AS 5.5-9 FT.</u> Weathered Pierre semi-consolidated blocky texture hard w/ white precipitate along breaks, (CaCO3) or gypsum crystals throughout 5.0 ft core.	No Readings OVM 580 B Multigas				
14		<u>WEATHERED PIERRE</u> Blocky fractures same as 9-14 w/ CaSO4/CaCO3 deposits - light honey brown fibrous material almost resembles asbestos fibers - mixed w/white precipitate.	No Readings OVM 580 B Multigas				
19		Same As 14-19 ft. No indication of water - Dry.	No Readings OVM 580 B Multigas				
24		<u>BOTTOM OF EXPLORATION</u> At 24 ft. Set 10 ft slotted screen 1" SCH 40 PVC from 13.5 - 23.5 ft.					

PROJECT: Site Services, Inc.

HOLE NO.: LF2-GP4

HTW DRILLING LOG

HOLE NO. LF5GP-1

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 5, Gas Probes			4. LOCATION Fort Carson, Colorado Springs, CO		
5. NAME OF DRILLER Dennis Edleman			6. MANUFACTURERS DESIGNATION OF DRILL CME-75		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger		8. HOLE LOCATION Northing:1336767.837540, Easting:3209690.368210, NA 83/92	
		Continuous Core		9. SURFACE ELEVATION 5782.95 feet	
				10. STARTED DATE: 8/11/07 TIME:	
				11. COMPLETED DATE: 8/11/97 TIME:	
12. OVERBURDEN THICKNESS 16.0 feet			15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 9.0 feet DATE: 8/11/97 TIME:		
13. DEPTH DRILLED INTO ROCK Not encountered			16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:		
14. TOTAL DEPTH OF HOLE 18.0 feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None		

18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC. NA	
	NA	NA	NA	NA	NA		
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHERS (SPECIFY)	23. INSPECTOR J. Gillespie		
		NA	NA	Gas Probe			

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS- RECOVERY	REMARKS
a	b	c	d	e	f	g	h
0	CL	CLAY (CL) Stiff to very stiff, dry, very dark brown (10 YR 3/2), mostly clay, some silt, little coarse sand and fine gravel, highly plastic, 1 to 2 inch gravel zones.	0.0				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable Drilled to 5 feet, hit hard area. Moved 10 feet west.
1							
2			HS=0.0 ppm				
3							
4		Residual Soils.	4.0				
5		CLAY WITH GRAVEL No recovery; Brick plugged the core barrel. Fill debris and construction materials encountered at 4 feet and pushed to nine.					
6			HS=9.4 ppm				No Recovery
7							
8							
9	SW		9.0 HS=1.0 ppm				

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-1

HTW DRILLING LOG

HOLE NO.
LF5GP-1

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
11	SW	<u>SILT WITH SAND</u> Stiff, dry, olive brown (2.5 Y 4/3), mostly silt, little sand.	9.0				Moist areas but no visible water
12			HS=1.0 ppm				
13		<u>SAND AND LEAN CLAY</u> Soft; Hard refusal at 13.0 ft., increase gravel fine to medium, little lenses of alluvial gravel with interstitial clay, moist but no visible water.	14.0				1.0 ppm H2S in HSA annulus
14							
15							Encountered friable, severely weathered Pierre Shale at 16.0 feet. Sharp contact between alluvium and shale.
16	HAL	<u>PIERRE SHALE</u> Dry, foliated.	HS=0.0 ppm				
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-1

HTW DRILLING LOG

HOLE NO.
LF5GP-2

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 5, Gas Probes			4. LOCATION Fort Carson, Colorado Springs, CO		
5. NAME OF DRILLER Dennis Edleman			6. MANUFACTURERS DESIGNATION OF DRILL CME-75		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger		8. HOLE LOCATION Ncrthing:1336586.989480, Easting:3209725.861100 , NA083/92	
		Continuous Core		9. SURFACE ELEVATION 5776.05 feet	
				10. STARTED DATE: 8/12/97 TIME:	
				11. COMPLETED DATE: 8/12/97 TIME:	
12. OVERBURDEN THICKNESS 10.5 feet			15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: NA.0 feet DATE: 8/12/97 TIME:		
13. DEPTH DRILLED INTO ROCK Not encountered			16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:		
14. TOTAL DEPTH OF HOLE 14.0 feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None		

18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC, NA	
	NA	NA	NA	NA	NA		
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHERS (SPECIFY)	23. INSPECTOR			
	NA	NA	Gas Probe	J. Gillespie			

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS- RECOVERY	REMARKS
a	b	c	d	e	f	g	h
1	SW	WELL GRADED SAND (SW) Reddish brown. -TOPSOIL-	0.0				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
2	CL	LEAN CLAY (CL) Medium, moist, dark greyish brown (2.5 Y 4/2), mostly clay, little silt, trace fine sand. -BACKFILL-	HS=0.0 ppm				
3							
4							
5		LEAN CLAY (CL) Same as above. -ALLUVIUM-	HS=27.6 ppm				
6	CL	LEAN CLAY (CL) Soft, moist, dark greyish brown (10 YR 4/2), mostly clay, little silt and fine sand.					
7							
8		LEAN CLAY WITH SAND (CL) Dense, dry, dark greyish brown (10 YR 4/2), mostly clay some coarse to fine sand.					
9			9.0 HS=0.0 ppm				Saturated from 9.0 to 10.5 feet.

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-2

HTW DRILLING LOG

HOLE NO.
LF5GP-2

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEO TECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
10	CL		9.0				
11		SEVERELY WEATHERED PIERRE SHALE Grey with weathering along joints (2.5 Y 5/1), to brownish yellow (10 YR 6/8). Clay with sand as above.	HS=0.0 ppm				
12							
13							B.O.E at 14.0 feet. Installed bentonite pellets from 14 to 19 feet, 3 feet of screen from 5.5 to 8.5 feet.
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-2

HTW DRILLING LOG										HOLE NO. LF5GP-3				
1. COMPANY NAME RUST Environment and Infrastructure					2. DRILLING SUBCONTRACTOR Site Services, Inc.					SHEET 1 OF 1 SHEETS				
3. PROJECT Landfill 5, Gas Probes					4. LOCATION Fort Carson, Colorado Springs, CO									
5. NAME OF DRILLER Dennis Edleman					6. MANUFACTURERS DESIGNATION OF DRILL CME-75									
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger			8. HOLE LOCATION Northing:1336667.162480, Easting:3209898.733760 , NA083/92									
		Continuous Core												
12. OVERBURDEN THICKNESS Greater then 9.0 feet					9. SURFACE ELEVATION 5779.08 feet									
					10. STARTED			11. COMPLETED						
13. DEPTH DRILLED INTO ROCK Not encountered					DATE: 8/12/97			TIME:		DATE: 8/12/97			TIME:	
					15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE)			DEPTH: 8.5 feet		DATE: 8/12/97		TIME:		
14. TOTAL DEPTH OF HOLE 9.0 feet					16. DEPTH TO WATER AND TIME MEASURED									
					DEPTH: NA.0 feet			DATE:		TIME:				
18. SAMPLES FOR GEOTECHNICAL TESTING					DISTURBED NA		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA					
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS		OTHER (SPECIFY)		OTHER (SPECIFY)		OTHER (SPECIFY)		21. TOTAL CORE REC. NA		
		NA		NA		NA		NA		NA				
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL		OTHERS (SPECIFY)		23. INSPECTOR Joey Gillespie						
		NA		NA		Gas Probe								
DEPTH a	USCS b	DESCRIPTION OF MATERIALS c			FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h					
0	CL	Topsoil.			0.0				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable					
1	CL	LEAN CLAY WITH SAND (CL) Dense, dry, light olive brown (2.5 Y 5/4), mostly clay with some fine to medium sand, little to few silt.			HS=0.0 ppm									
2														
3														
4	CL	LEAN CLAY WITH SAND (CL) Same as above.			4.0									
5														
6														
7	CL	Increasing gravel content, alluvial granite, pink gravel, surrounded, interstitial clay.			HS=0.0 ppm				Severely weathered Pierre at 4 to 5 feet. Increasing alluvial content and less clay with depth.					
8														
9														
8	SW	WELL SORTED SAND WITH CLAY (SW) Loose, saturated, olive yellow (2.5 Y 6/8), mostly coarse granitic sand, some fine to medium sand.							Bottom of exploration at 9 feet.					
9														

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-3

HTW DRILLING LOG

HOLE NO.
LF5GP-4

1. COMPANY NAME
RUST Environment and Infrastructure

2. DRILLING SUBCONTRACTOR
Site Services, Inc.

SHEET 1
OF 2 SHEETS

3. PROJECT
Landfill 5, Gas Probes

4. LOCATION
Fort Carson, Colorado Springs, CO

5. NAME OF DRILLER
Dennis Edleman

6. MANUFACTURERS DESIGNATION OF DRILL
CME-75

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4.25 in ID Hollow Stem Auger
Continuous Core

8. HOLE LOCATION
Northing:1336795.374000, Easting:3208914.147310, NAD 83/92

9. SURFACE ELEVATION
5793.22 feet

10. STARTED
DATE: 8/12/97 TIME:

11. COMPLETED
DATE: 8/12/97 TIME:

12. OVERBURDEN THICKNESS
4.0 feet

15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE)
DEPTH: 14.0 feet DATE: 8/12/97 TIME:

13. DEPTH DRILLED INTO ROCK
Not encountered

16. DEPTH TO WATER AND TIME MEASURED
DEPTH: NA.0 feet DATE: TIME:

14. TOTAL DEPTH OF HOLE
19.0 feet

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
None

18. SAMPLES FOR GEOTECHNICAL TESTING
DISTURBED NA UNDISTURBED NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
VOC NA METALS NA OTHER (SPECIFY) NA OTHER (SPECIFY) NA OTHER (SPECIFY) NA

21. TOTAL CORE REC.
NA

22. DISPOSITION OF HOLE
BACKFILLED NA MONITORING WELL NA OTHERS (SPECIFY) Gas Probe

23. INSPECTOR
Joey Gillespie

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
0	CL	LEAN CLAY WITH GRAVEL (CL) Dense, dry, dark olive brown (2.5 Y 3/3), mostly clay, some coarse gravel, little sand. -FILL-	0.0				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable 100% recovery. Landfill cover.
1							
2			HS=0.0 ppm				
3							
4							
5		LEAN CLAY WITH GRAVEL (CL) Same as above then black wood debris for remainder of drilling.	4.0				
6							
7			HS=1.8 ppm				
8							
9			9.0 HS=0.5 ppm				3 feet of recovery

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-4

HTW DRILLING LOG

HOLE NO.
LF5GP-4

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
Joey Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
10	CL		9.0				
11		Wood/glass shards with sandy clay lenses. Clay is saturated, moist and plastic.					2 feet of recovery.
12			HS=0.5 ppm				4-14 feet, landfill debris.
13							
14			14.0				
15		<u>LEAN CLAY WITH SAND (CL)</u> Soft, saturated, light olive brown (2.5 Y 5/4), mostly clay, some fine to coarse sand; out of landfill debris.					4 feet of recovery
16			HS=0.5 ppm				
17							
18							B.O.E at 19.0 feet. Backfilled w/ bentonite pellets to 14.5 ft., set 8.5 feet of screen from 5.5 to 14.0 w/ pea gravel.
19		<u>LEAN CLAY (CL)</u> Soft, moist, dark olive brown (2.5 Y 3/3), mostly clay; resembles molding clay.					
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-4

HTW DRILLING LOG

HOLE NO. LF5GP-5

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 5, Gas Probes			4. LOCATION Fort Carson, Colorado Springs, CO		
5. NAME OF DRILLER Dennis Edleman			6. MANUFACTURERS DESIGNATION OF DRILL CME-75		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger Continuous Core		8. HOLE LOCATION Northing:1336421.541670, Easting:3208980.132520, NAD83/92	
				9. SURFACE ELEVATION 5794.55 feet	
		10. STARTED DATE: 8/13/97		11. COMPLETED DATE: 8/13/97	
		TIME:		TIME:	
12. OVERBURDEN THICKNESS Greater than 14.0 feet			15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 12.0 feet		
13. DEPTH DRILLED INTO ROCK Not encountered			16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet		
14. TOTAL DEPTH OF HOLE 14.0 feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None		

18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS		OTHER (SPECIFY)	
NA		NA		NA		NA	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL		23. INSPECTOR	
		NA		NA		Gas Probe Joey Gillespie	

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
0	CL	Topsoil.	0.0				Depth is in Feet.
1		LEAN CLAY WITH GRAVEL (CL) Soft, moist, olive brown (2.5 Y 4/3), mostly clay, little fine to coarse sand and fine gravel.					HS = Sample Headspace Screening Results NA = Not Applicable Fill material
2		-FILL-	HS=0.0 ppm				
3							
4		Decreased gravel content.	4.0				
5							
6			HS=0.9 ppm				fill material
7		LEAN CLAY WITH GRAVEL (CL) Same as above.					
8							
9			9.0 HS=0.0 ppm				

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-5

HTW DRILLING LOG

HOLE NO.
LF5GP-5

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
Joey Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
10	CL	<u>LEAN CLAY WITH SAND (CL)</u> Stiff, moist, olive brown (2.5 Y 4/4), mostly clay and some fine to coarse sand. -FILL?-	9.0				Backfilled with bentonite to 12.5 feet
11							
12		<u>SANDY LEAN CLAY (CL)</u> Soft, saturated, olive brown (2.5 Y 4/4), mostly clay, some fine to coarse sand, trace fine gravel. -ALLUVIUM-	HS=0.0 ppm				B.O.E at 14.0 feet. Installed with screen from 5.5 to 12.0 feet BGS. Installed bentonite pellets fro 14 to 12.5 ft.
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-5

HTW DRILLING LOG

HOLE NO.
LF5GP-6

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 5, Gas Probes		4. LOCATION Fort Carson, Colorado Springs, CO			
5. NAME OF DRILLER Dennis Edleman		6. MANUFACTURERS DESIGNATION OF DRILL CME-75			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4.25 in ID Hollow Stem Auger		8. HOLE LOCATION Northing:1336755.475210, Easting:3208759.025240 , NA 83/92		
	Continuous Core		9. SURFACE ELEVATION 5800.17 feet		
			10. STARTED DATE: 8/13/97 TIME:		
			11. COMPLETED DATE: 8/13/97 TIME:		
12. OVERBURDEN THICKNESS Greater than 24.0 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: NA.0 feet DATE: 8/13/97 TIME:			
13. DEPTH DRILLED INTO ROCK Not encountered		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 24.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
19. TOTAL NUMBER OF CORE BOXES NA					
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC		METALS		OTHER (SPECIFY)
	NA		NA		NA
21. TOTAL CORE REC. NA					
22. DISPOSITION OF HOLE	BACKFILLED		MONITORING WELL		OTHERS (SPECIFY)
	NA		NA		Gas Probe
23. INSPECTOR Joey Gillespie					

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS- RECOVERY	REMARKS
a	b	c	d	e	f	g	h
1	GM	POORLY GRADED GRAVEL WITH SILT (GM) Dense, dry, reddish yellow (5 Y 7/8), mostly fine gravel with medium and coarse gravel.					Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
2							
3							
4							
5		Same as above, moist.					
6							
7	CL	LEAN CLAY WITH GRAVEL (CL) Stiff, moist, dark olive brown (2.5 Y 3/3), mostly clay, little fine to coarse sand, trace coarse gravel.					
8		-FILL-					
9							

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-6

HTW DRILLING LOG

HOLE NO.
LF5GP-6

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
Joey Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
11	CL	LEAN CLAY (CL) Firm, moist, dark olive brown (2.5 Y 3/3), mostly clay, trace to little sand. -FILL-					
12							
13							
14							
15		LEAN CLAY (CL) Same as above.					
16							
17		Note: Visible water in clay pockets, moist but not saturated.					
18							
19							
20		LEAN CLAY (CL) Same as above, becoming black with depth. Has the plasticity of modeling clay.					
21							
22							
23							
24							B.O.E at 24 feet. Installed 10 feet of screen from 13.5 to 23.5 feet.
25							
26							
27							

PROJECT: Landfill 5, Gas Probes

HOLE NO.: LF5GP-6

HTW DRILLING LOG

HOLE NO.
LF6GP-1

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 6		4. LOCATION Fort Carson, Colorado Springs, CO			
5. NAME OF DRILLER Dennis Edleman		6. MANUFACTURERS DESIGNATION OF DRILL CME75			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger Continuous Core		8. HOLE LOCATION Northing:1332807.177780, Easting:3201266.284120, NAD83/92	
		9. SURFACE ELEVATION 5866.15 feet		10. STARTED DATE: 8/18/97 TIME:	
				11. COMPLETED DATE: 8/18/97 TIME:	
12. OVERBURDEN THICKNESS Greater than 13.0 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 9.0 feet DATE: 8/18/97 TIME:			
13. DEPTH DRILLED INTO ROCK Not encountered		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 13.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
		19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA		METALS NA	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
22. DISPOSITION OF HOLE		BACKFILLED NA		MONITORING WELL NA	
		OTHERS (SPECIFY) Gas Probe		23. INSPECTOR J. Gillespie	

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS- RECOVERY	REMARKS
a	b	c	d	e	f	g	h
0	GP	Gravel Base.	0.0				Depth is in Feet.
1	SC	CLAYEY SAND (SC) Loose, moist, light yellowish brown (2.5 Y 6/4), mostly fine sand, some medium to coarse sand and clay, little silt.	HS=0.0 ppm				HS = Sample Headspace Screening Results NA = Not Applicable
2		-FILL-					
3			3.0				
4		CLAYEY SAND (SC) Loose, moist, light olive brown (2.5 Y 5/3), mostly fine sand, some medium sand and clay, plastic.	HS=0.0 ppm				Siltstone clogged core barrel, only 2 feet of recovery.
5							
6		CLAYEY SAND (SC) Same as above with increasing clay content.	HS=0.0 ppm				
7							
8							
9		CLAYEY SAND (SC) Same as above, moist, olive brown (2.5 Y 4/3). Saturated below 9.0 feet.	HS=0.0 ppm				Multigas reading= 1.5 ppm H2S

PROJECT: Landfill 6

HOLE NO.: LF6GP-1

HTW DRILLING LOG

HOLE NO.
LF6GP-1

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
10	SC		10.0				
11		CLAYEY SAND (SC) Wet, olive brown (2.5 Y 4/3), mostly fine to medium sand with some clay, plastic.	HS=0.0 ppm				
12							Multigas reading = 1.5 ppm H2S
13	GP	Gravel alluvium.					
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 6

HOLE NO.: LF6GP-1

HTW DRILLING LOG

HOLE NO.
LF6GP-2

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 6			4. LOCATION Fort Carson, Colorado Springs, CO		
5. NAME OF DRILLER Dennis Edleman			6. MANUFACTURERS DESIGNATION OF DRILL CME75		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger Continuous Core		8. HOLE LOCATION Northing:1332916.763580, Easting:3200211.997400, NAD83/92	
				9. SURFACE ELEVATION 5868.44 feet	
		10. STARTED DATE: 8/18/97 TIME:		11. COMPLETED DATE: 8/18/97 TIME:	
12. OVERBURDEN THICKNESS Greater than 13.0 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 12.0 feet DATE: 8/18/97 TIME:			
13. DEPTH DRILLED INTO ROCK Not encountered		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 13.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
		19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA		METALS NA	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
		OTHER (SPECIFY) NA		21. TOTAL CORE REC. NA	
22. DISPOSITION OF HOLE		BACKFILLED NA		MONITORING WELL NA	
		OTHERS (SPECIFY) Gas Probe		23. INSPECTOR J. Gillespie	

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
0	GP	Top soil.	0.0				Depth is in Feet.
1	CL	LEAN CLAY WITH GRAVEL (CL) Medium stiff, dry, dark olive brown (2.5 Y 4/2), mostly clay, little fine gravel and fine to medium sand.	HS=0.0 ppm				HS = Sample Headspace Screening Results NA = Not Applicable
2							
3							
4			4.0				
5							
6		LEAN CLAY (CL) Stiff, moist, dark olive brown (2.5 Y 4/2), mostly clay, little fine to medium sand, trace coarse sand, occasional 2 foot thick fine gravel lenses.	HS=0.0 ppm				
7							
8							
9							
10							

PROJECT: Landfill 6

HOLE NO.: LF6GP-2

HTW DRILLING LOG

HOLE NO.
LF6GP-2

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
11	CL	<u>LEAN CLAY (CL)</u> Stiff, olive brown (2.5 Y 4/4), mostly clay, trace to few fine sand, plastic.					
12							
13		<u>LEAN CLAY WITH SAND (CL)</u> Moist, mottled gray with olive yellow (2.5 Y 6/6), mostly clay with little fine sand, saturated at end with fine gravel.					Bottom of exploration at 14.0 feet. Set 5 feet of screen with 10 feet of riser. Bottom of screen at 12.5 feet.
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 6

HOLE NO.: LF6GP-2

HTW DRILLING LOG

HOLE NO.
LF6GP-3

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 6			4. LOCATION Fort Carson, Colorado Springs, CO		
5. NAME OF DRILLER Dennis Edleman			6. MANUFACTURERS DESIGNATION OF DRILL CME75		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger Continuous Core		8. HOLE LOCATION Northing:1332719.001780, Easting:3200388.313630, NA083/9	
				9. SURFACE ELEVATION 5868.34 feet	
		10. STARTED DATE: 8/18/97 TIME:		11. COMPLETED DATE: 8/18/97 TIME:	
12. OVERBURDEN THICKNESS Greater than 14.0 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 13.0 feet DATE: 8/18/97 TIME:			
13. DEPTH DRILLED INTO ROCK Not encountered		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 14.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
		19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
NA		NA		NA	
		OTHER (SPECIFY)		OTHER (SPECIFY)	
		NA		NA	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		NA		NA	
		OTHERS (SPECIFY)		23. INSPECTOR J. Gillespie	
		Gas Probe			

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
0	GP CL	Top soil.	0.0				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
1		LEAN CLAY (CL) Moderately stiff, dry, olive brown (2.5 Y 4/3), mostly clay, little to trace fine sand, trace coarse sand to fine gravel.	HS=0.0 ppm				
2							
3							
4			4.0				
5		LEAN CLAY (CL) Same as above.					
6							
7		Increasing clay content at 6 feet.	HS=0.0 ppm				
8							
9							

PROJECT: Landfill 6

HOLE NO.: LF6GP-3

HTW DRILLING LOG

HOLE NO.
LF6GP-3

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEO TECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
11	CL	LEAN CLAY (CL) Soft, moist, olive grey (2.5 Y 4/3), mostly clay, plastic.					
12							
13		Saturated clay with fine sand.					Water encountered at 13.0 feet.
14							Bottom of exploration at 14.0 feet
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 6

HOLE NO.: LF6GP-3

HTW DRILLING LOG

HOLE NO.
LF6GP-4

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 6		4. LOCATION Fort Carson, Colorado Springs, CO			
5. NAME OF DRILLER Dennis Edleman		6. MANUFACTURERS DESIGNATION OF DRILL CME75			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger Continuous Core		8. HOLE LOCATION Northing:1332518.763420, Easting:3200575.336380, NAD83/	
				9. SURFACE ELEVATION 5869.60 feet	
		10. STARTED DATE: 8/19/97 TIME:		11. COMPLETED DATE: 8/19/97 TIME:	
12. OVERBURDEN THICKNESS Greater than 14.0 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 10.5 feet DATE: 8/19/97 TIME:			
13. DEPTH DRILLED INTO ROCK Not encountered		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 14.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			

18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA		METALS NA		OTHER (SPECIFY) NA	
		NA		NA		NA	
22. DISPOSITION OF HOLE		BACKFILLED NA		MONITORING WELL NA		23. INSPECTOR J. Gillespie	
		NA		Gas Probe			

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
0	GP	TOP SOIL (ORGANICS AND CLAY)	0.0				Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
1	CL						
2		SILT (ML) Loose, dry, very dark greyish brown (2.5 Y 3/2), mostly silt, little fine to medium sand, trace fine to medium gravels.	HS=0.0 ppm				
3							
4			4.0				
5		LEAN CLAY (CL) Stiff, moist to dry, olive brown (2.5 Y 4/3), mostly clay trace fine sand.					
6							
7			HS=0.0 ppm				
8							
9		LEAN CLAY (CL) Same as above.	9.0 HS=0.0 ppm				Water encountered at 9.0 feet

PROJECT: Landfill 6

HOLE NO.: LF6GP-4

HTW DRILLING LOG

HOLE NO.
LF6GP-4

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
10	CL	LEAN CLAY WITH SAND (CL) Saturated, olive brown (2.5 Y 4/3), mostly clay, some medium to fine sand, plastic.	9.0				
11							
12	SP	POORLY GRADED SAND (SP) Loose, saturated, granitic sands, mostly coarse, little medium, trace fine. -ALLUVIUM-	HS=0.0 ppm				Water may be under pressure
13							
14							Bottom of exploration at 14.0 feet.
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 6

HOLE NO.: LF6GP-4

HTW DRILLING LOG

HOLE NO. LF6GP-5

1. COMPANY NAME RUST Environment and Infrastructure		2. DRILLING SUBCONTRACTOR Site Services, Inc.		SHEET 1 OF 2 SHEETS	
3. PROJECT Landfill 6		4. LOCATION Fort Carson, Colorado Springs, CO			
5. NAME OF DRILLER Dennis Edleman		6. MANUFACTURERS DESIGNATION OF DRILL CME75			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4.25 in ID Hollow Stem Auger Continuous Core		8. HOLE LOCATION Northing:1332304.608430, Easting:3200939.566350, NA083/	
		9. SURFACE ELEVATION 5868.87 feet			
		10. STARTED DATE: 8/19/97 TIME:		11. COMPLETED DATE: 8/19/97 TIME:	
12. OVERBURDEN THICKNESS Greater than 15.0 feet		15. DEPTH GROUNDWATER FIRST ENCOUNTERED (BELOW GROUND SURFACE) DEPTH: 10.0 feet DATE: 8/19/97 TIME:			
13. DEPTH DRILLED INTO ROCK Not encountered		16. DEPTH TO WATER AND TIME MEASURED DEPTH: NA.0 feet DATE: TIME:			
14. TOTAL DEPTH OF HOLE 15.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None			
18. SAMPLES FOR GEOTECHNICAL TESTING		DISTURBED NA		UNDISTURBED NA	
19. TOTAL NUMBER OF CORE BOXES NA					
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA		METALS NA	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
21. TOTAL CORE REC. NA					
22. DISPOSITION OF HOLE		BACKFILLED NA		MONITORING WELL NA	
		OTHERS (SPECIFY) Gas Probe		23. INSPECTOR J. Gillespie	

DEPTH	USCS	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (ppm)	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS-RECOVERY	REMARKS
a	b	c	d	e	f	g	h
0	GP CL	Top soil.					Depth is in Feet. HS = Sample Headspace Screening Results NA = Not Applicable
1							
2		SILT WITH SAND (ML) Medium to soft, dry, dark greyish brown (2.5 Y 4/2), mostly silt, trace fine gravel, little to few fine to medium sand, grading to silt - last 5 feet.					
3							
4							
5							
6							
7							
8							No sample from 5 to 10 feet due to lost pin in auger. Had to drill deeper to dislodge core barrel.
9		Lean clay from 9 to 10 feet.					

PROJECT: Landfill 6

HOLE NO.: LF6GP-5

HTW DRILLING LOG

HOLE NO.
LF6GP-5

1. COMPANY NAME
RUST Environment and Infrastructure

2. INSPECTOR
J. Gillespie

SHEET 2
OF 2 SHEETS

DEPTH a	USCS b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS (ppm) d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS- RECOVERY g	REMARKS h
10	CL	LEAN CLAY WITH SAND (CL) Soft to stiff, saturated, olive brown (2.5 Y 4/3), mostly clay with some fine to medium sand; appears to be bedded in some areas and massive in others.					Water encountered at 10.0 feet.
11							
12							
13							Water appears to be under pressure. Rising quickly inside of auger.
14		Lean clay in shoe at the bottom.					
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

PROJECT: Landfill 6

HOLE NO.: LF6GP-5

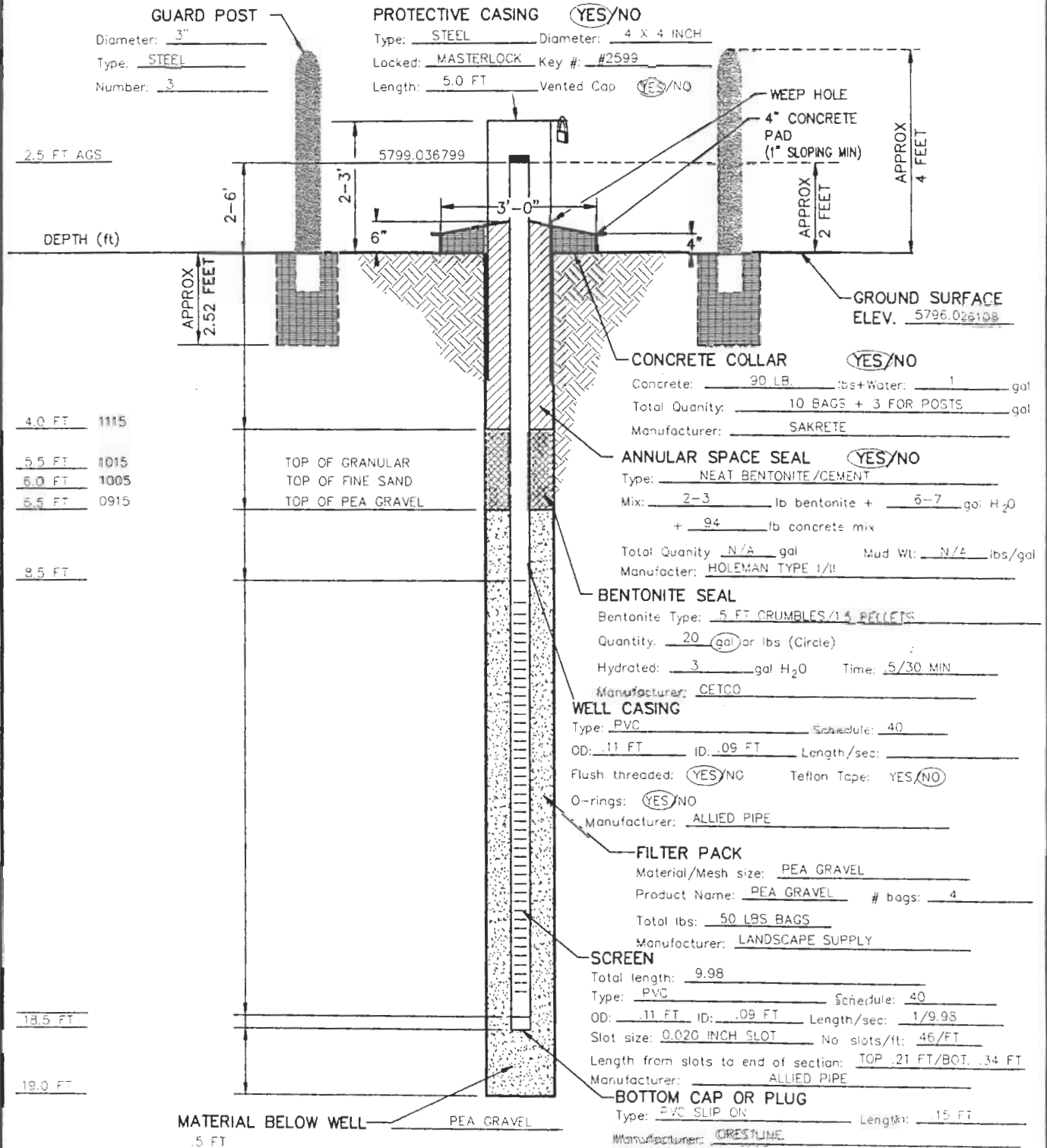
ATTACHMENT 2

MONITORING WELL LF2-GP1

ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: FORT CARSON
 DATE COMPLETED 02/19/98
 LOCATION: LANDFILL 2
 PERMIT NO. N/A

DRILLING METHOD: BME 175 W/3.25" ID HSA
 DRILLING COMPANY: SITE SERVICES
 FIELD GEOLOGIST: J. GILLESPIE
 STATIC DEPTH TO WATER: N/E



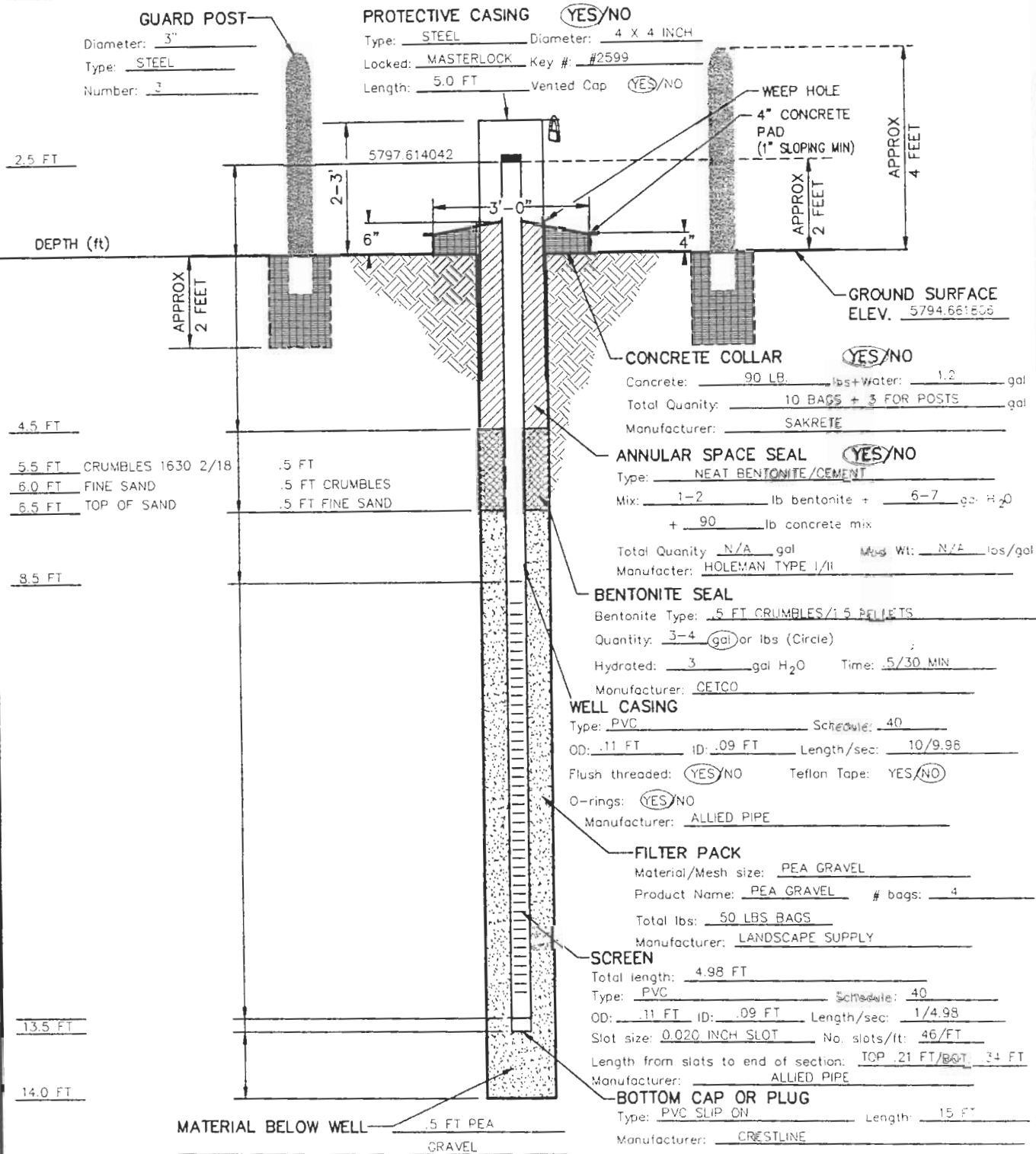
REMARKS: STRAIGHTNESS CHECKED OK - (YES) OR NO
 REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
 DEPTH TO WATER AFTER COMPLETION: N/E
 SIGNATURE OF PREPARER J. GILLESPIE

NOT TO SCALE

ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: FORT CARSON
DATE COMPLETED 02/18/98
LOCATION: LANDFILL 2
PERMIT NO. N/A

DRILLING METHOD: 3.25" ID HSA
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
STATIC DEPTH TO WATER: N/E



REMARKS: STRAIGHTNESS CHECKED OK - (YES) OR NO
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
DEPTH TO WATER AFTER COMPLETION: N/E
SIGNATURE OF PREPARER J. GILLESPIE NOT TO SCALE

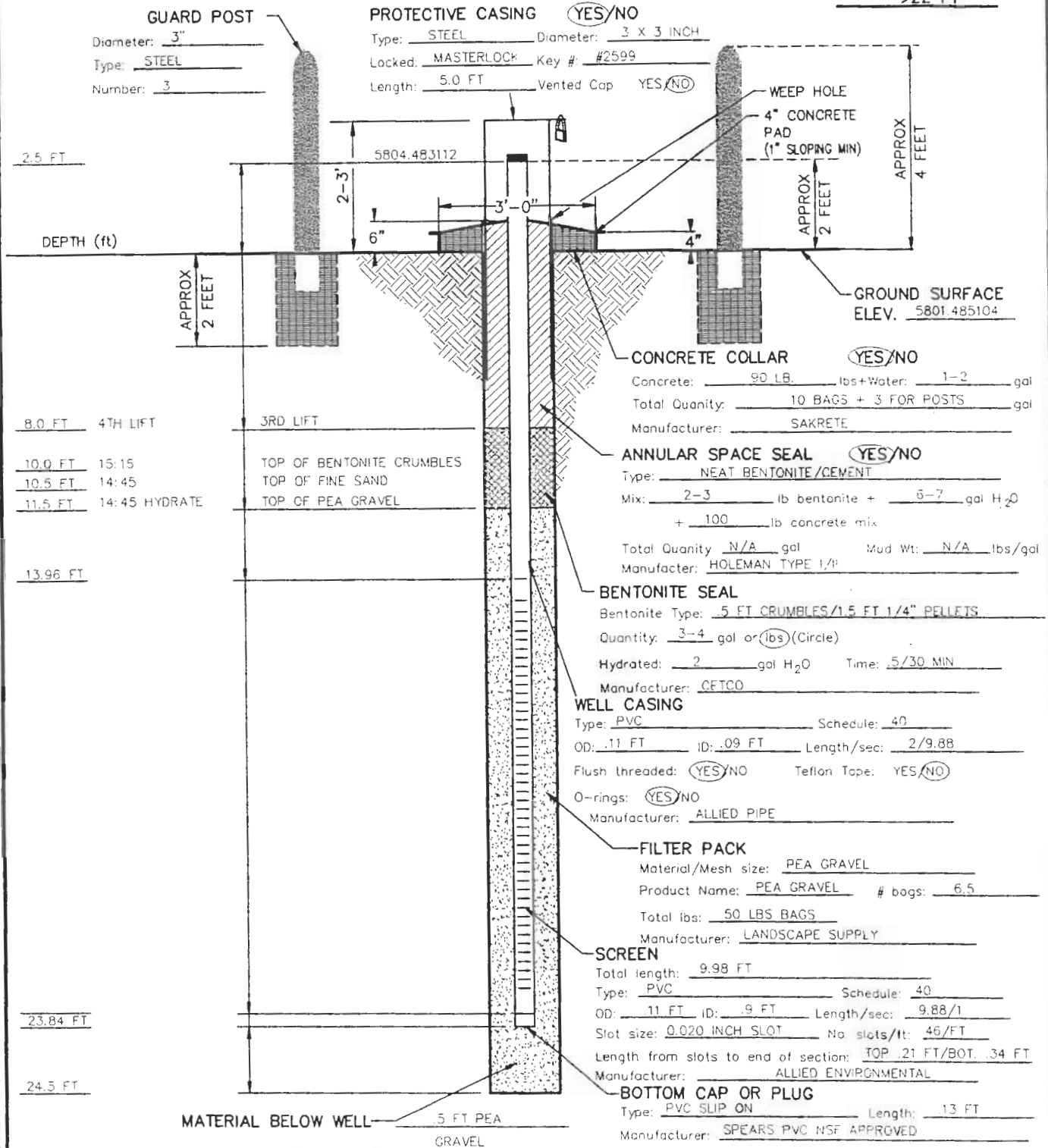
NOT TO SCALE

MONITORING WELL LF2-GP3

ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: FORT CARSON
 DATE COMPLETED 02/19/98
 LOCATION: LANDFILL 2
 PERMIT NO. N/A

DRILLING METHOD: 3.25" ID HSA
 DRILLING COMPANY: SITE SERVICES
 FIELD GEOLOGIST: J. GILLESPIE
 STATIC DEPTH TO WATER: N/E
 >22 FT



REMARKS: STRAIGHTNESS CHECKED OK - (YES) OR NO
 REFERENCE MEASURING POINT LOCATION/DESCRIPTION: BELOW GROUND SURFACE
 DEPTH TO WATER AFTER COMPLETION: N/E
 SIGNATURE OF PREPARER J. GILLESPIE

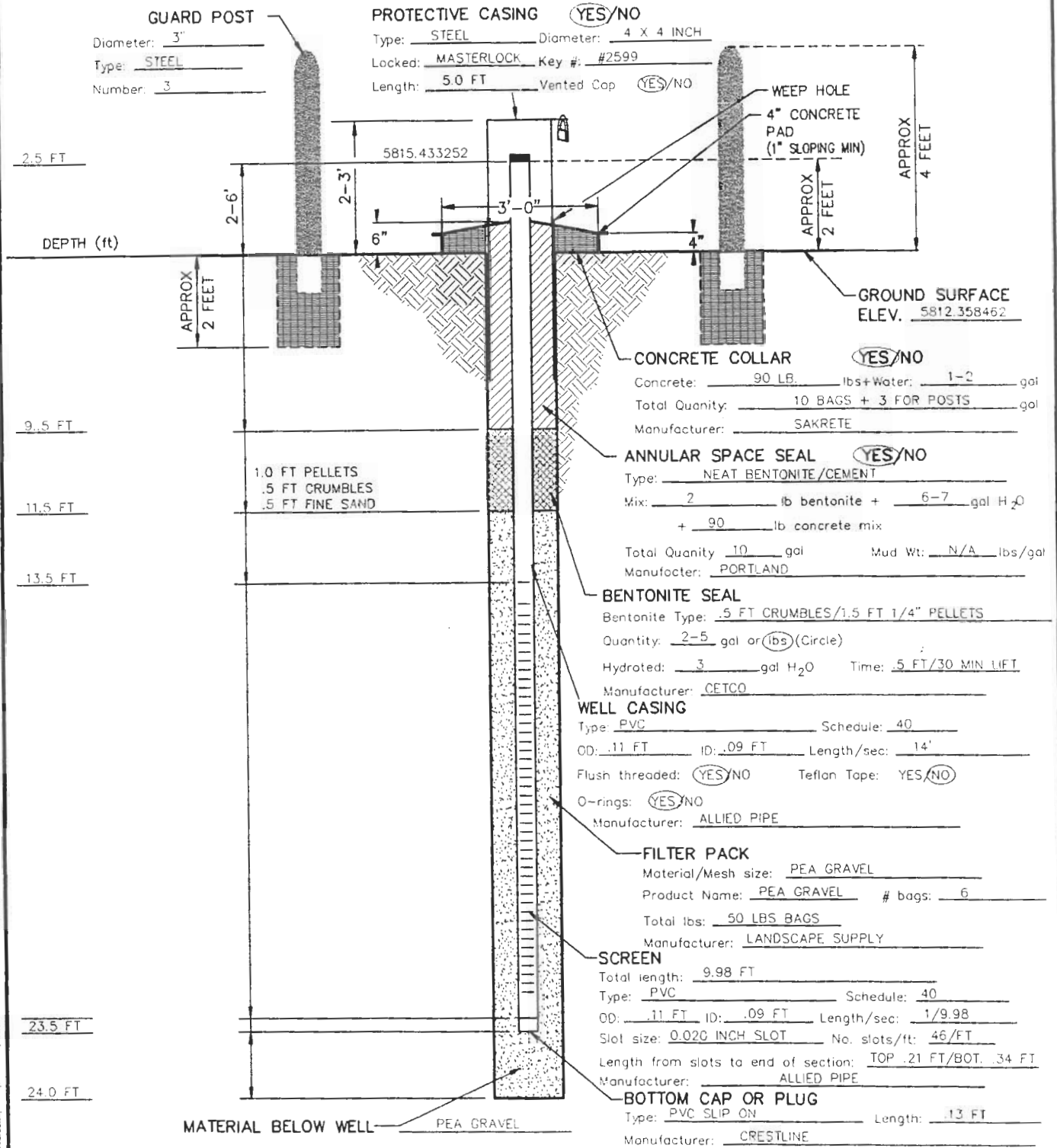
NOT TO SCALE

MONITORING WELL LF2-GP4

ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: FORT CARSON
 DATE COMPLETED 02/19/98
 LOCATION: LANDFILL 2
 PERMIT NO. N/A

DRILLING METHOD: BME 75W/3.25" ID HSA
 DRILLING COMPANY: SITE SERVICES
 FIELD GEOLOGIST: J. GILLESPIE
 STATIC DEPTH TO WATER: N/E



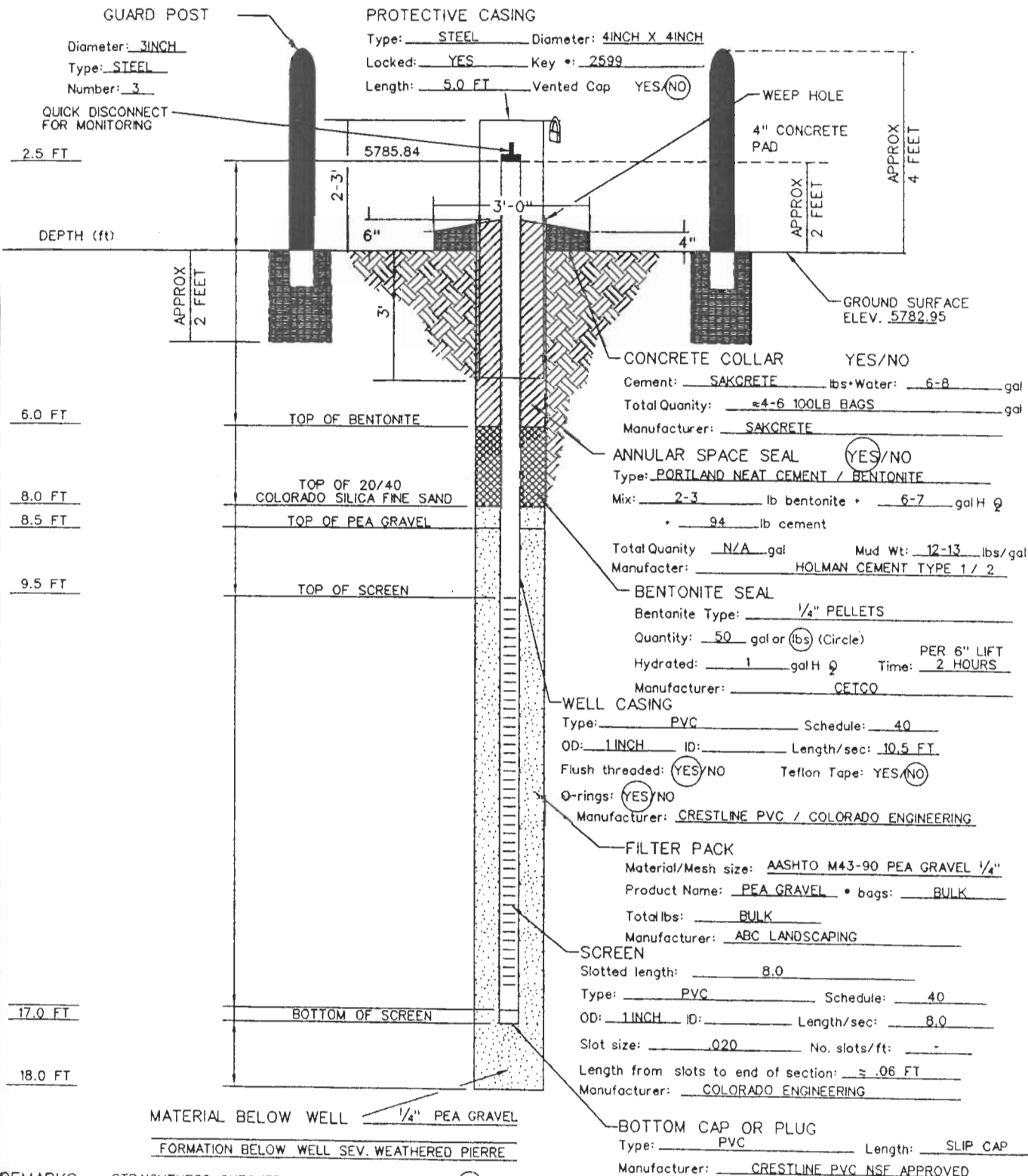
REMARKS: STRAIGHTNESS CHECKED OK - YES OR NO
 REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
 DEPTH TO WATER AFTER COMPLETION: N/E
 SIGNATURE OF PREPARER J. GILLESPIE

NOT TO SCALE

GAS PROBE MONITORING WELL LF5GP-1 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 5
DATE COMPLETED 08/11/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: NOT ENCOUNTERED



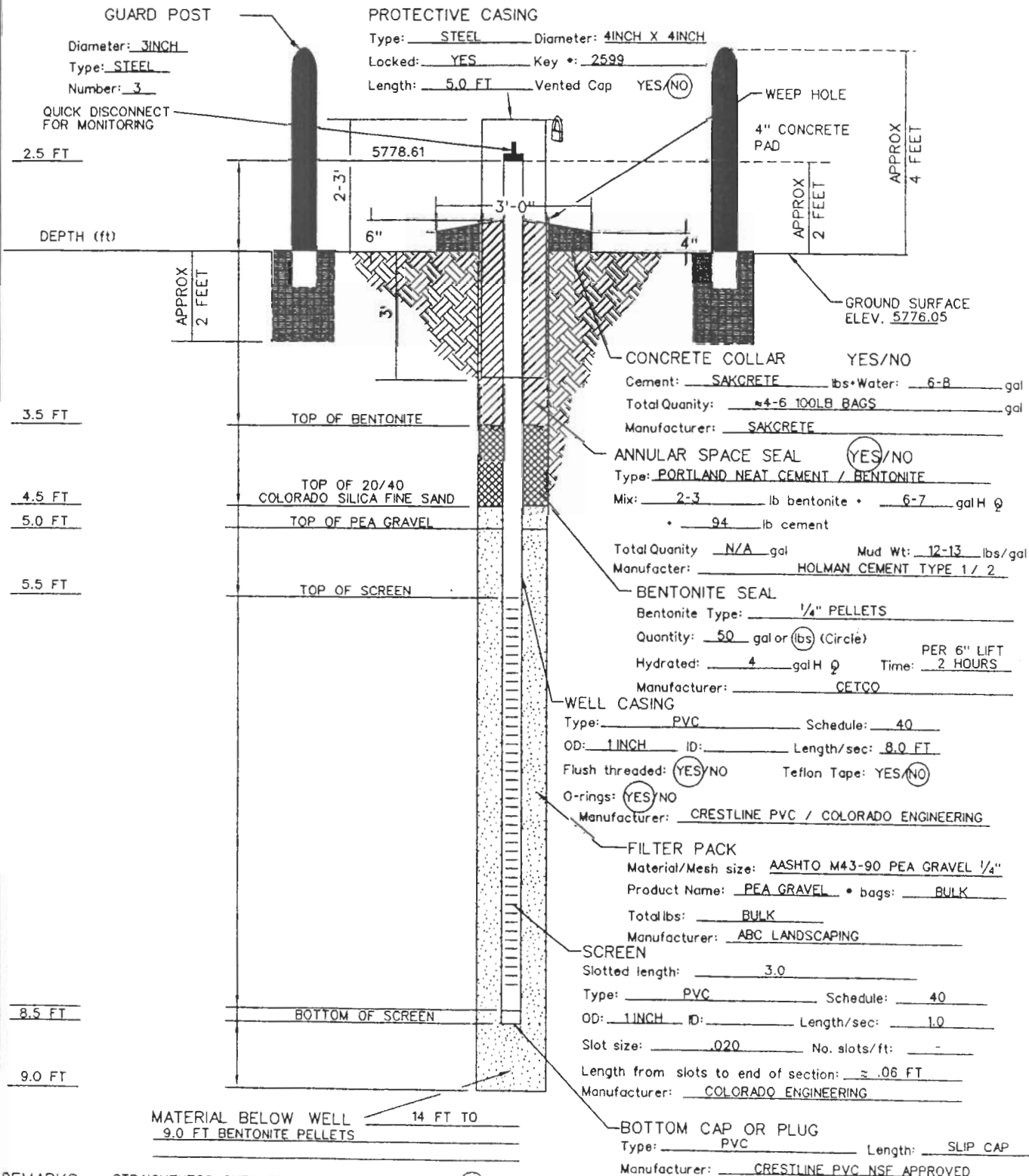
REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: _____
DEPTH TO WATER AFTER COMPLETION: _____
SIGNATURE OF PREPARER _____

NOT TO SCALE

GAS PROBE MONITORING WELL LF5GP-2 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 5
DATE COMPLETED 08/12/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: ~ 9.0 FT



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)

REFERENCE MEASURING POINT LOCATION/DESCRIPTION:

DEPTH TO WATER AFTER COMPLETION:

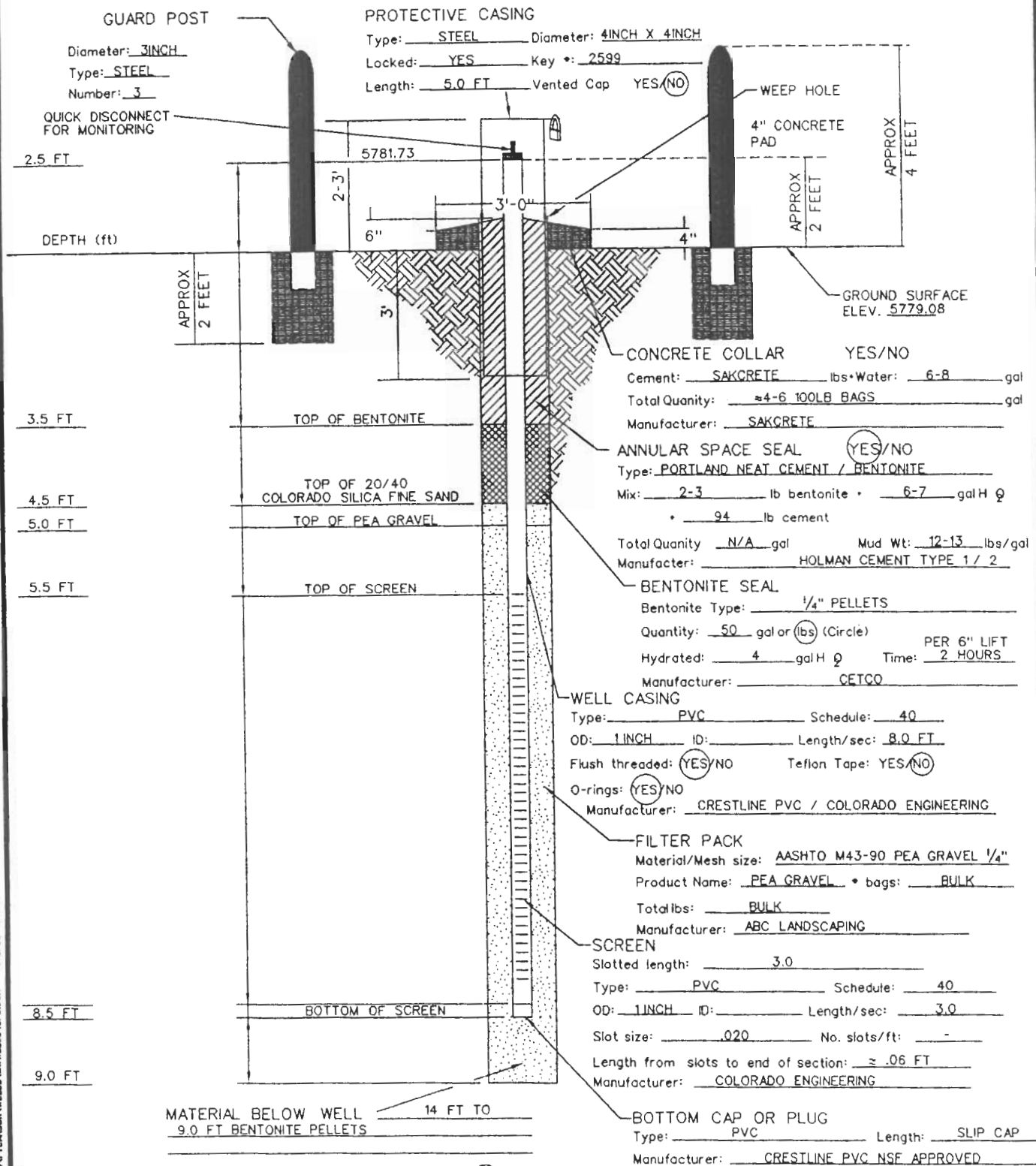
SIGNATURE OF PREPARER

NOT TO SCALE

GAS PROBE MONITORING WELL LF5GP-3 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 5
DATE COMPLETED 08/12/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: 8.5 TO 9.0 FT



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)

REFERENCE MEASURING POINT LOCATION/DESCRIPTION:

DEPTH TO WATER AFTER COMPLETION:

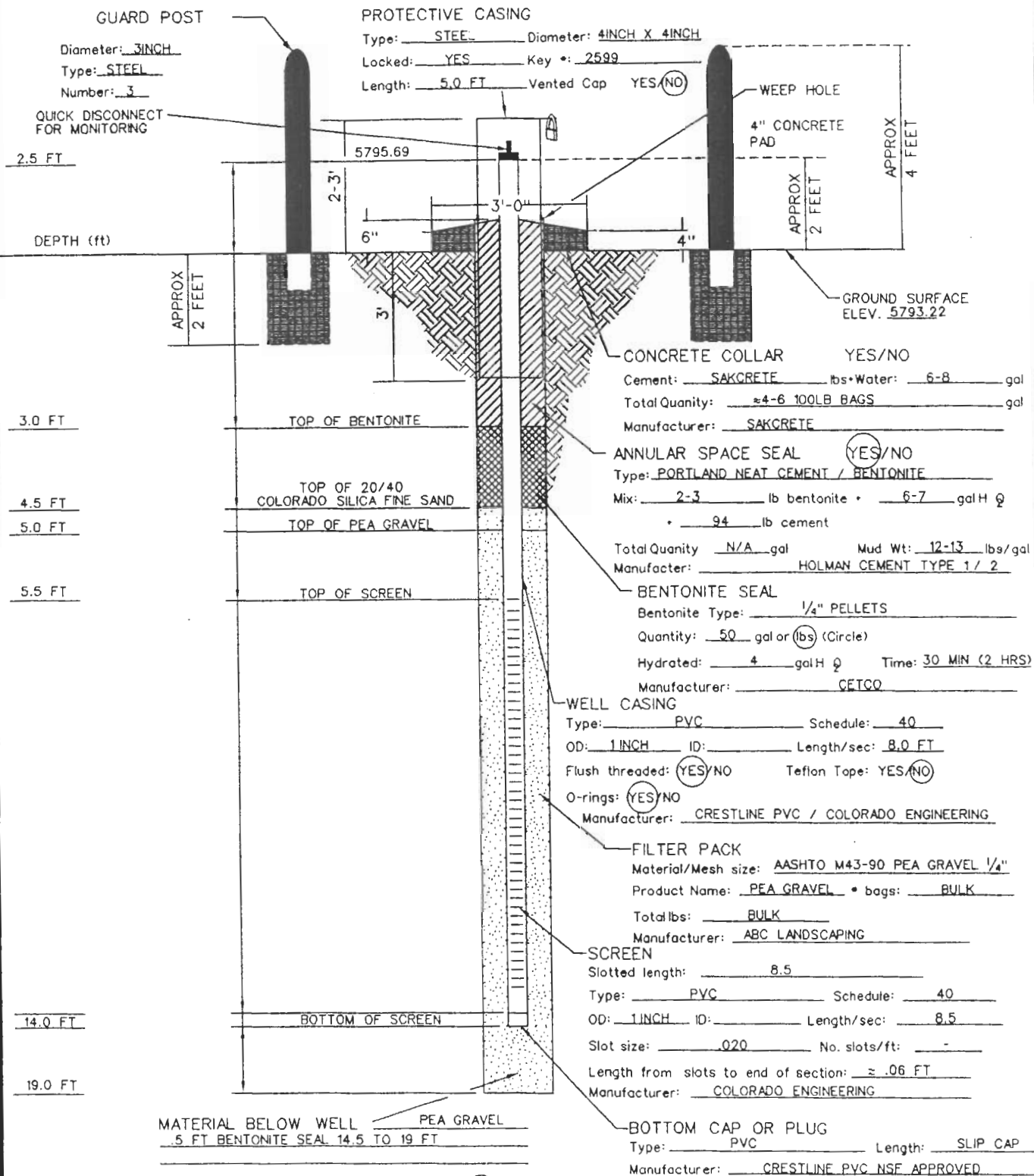
SIGNATURE OF PREPARER

NOT TO SCALE

GAS PROBE MONITORING WELL LF5GP-4 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 5
DATE COMPLETED 08/13/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: 14-15 FT



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)

REFERENCE MEASURING POINT LOCATION/DESCRIPTION:

DEPTH TO WATER AFTER COMPLETION:

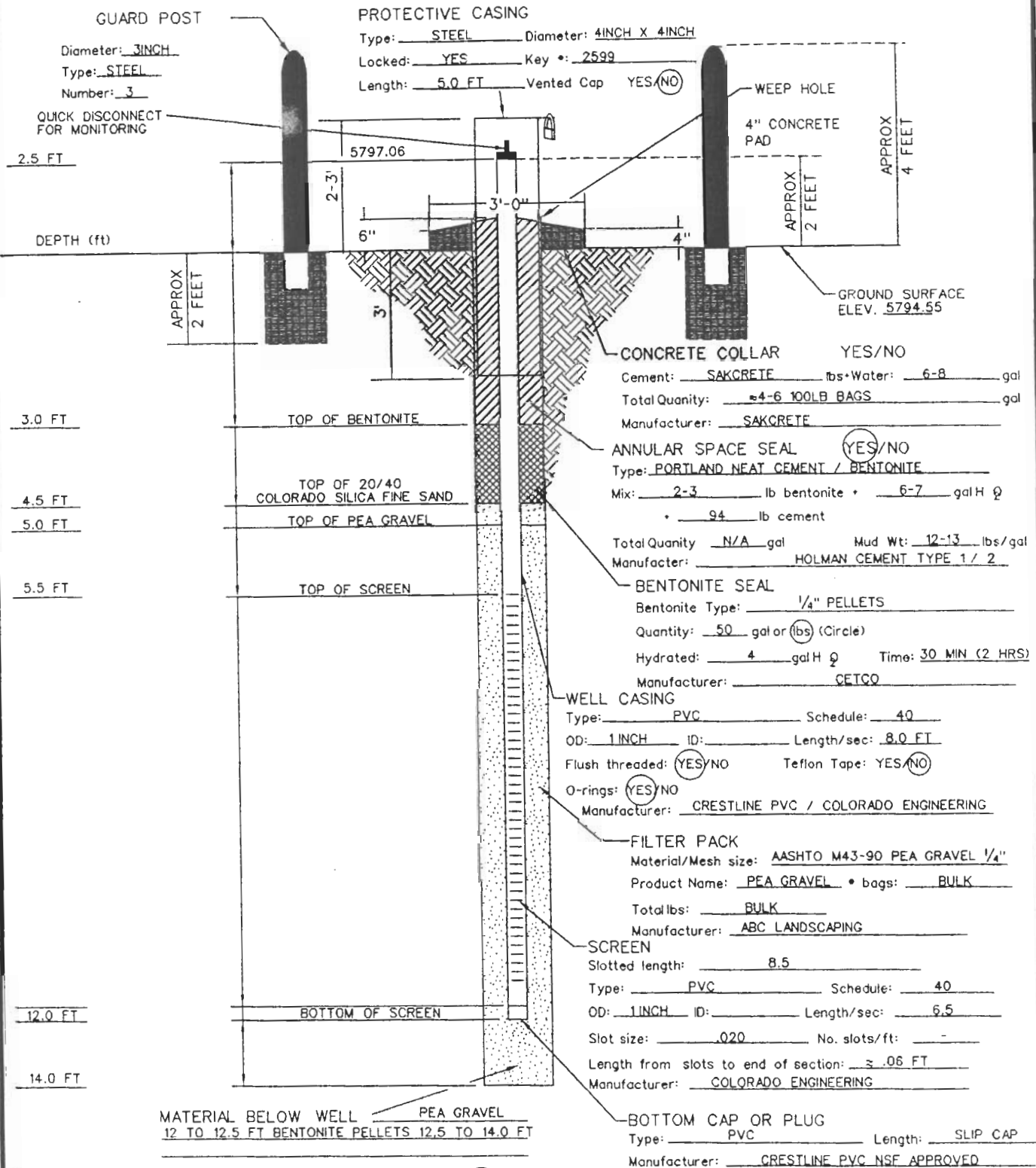
SIGNATURE OF PREPARER

NOT TO SCALE

GAS PROBE MONITORING WELL LF5GP-5 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 5
DATE COMPLETED 08/13/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: 12-12.5 FT



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)

REFERENCE MEASURING POINT LOCATION/DESCRIPTION:

DEPTH TO WATER AFTER COMPLETION:

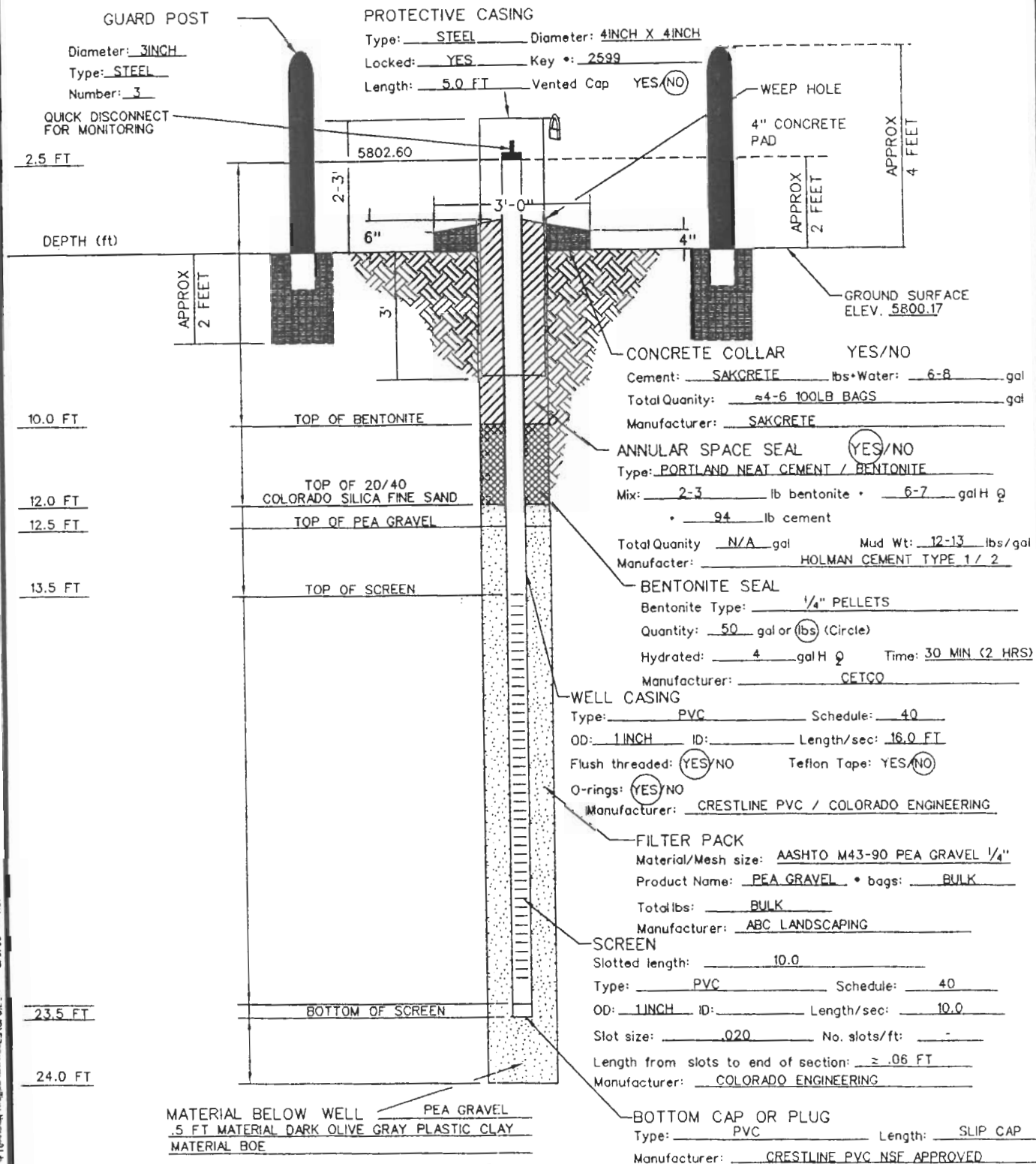
SIGNATURE OF PREPARER

NOT TO SCALE

GAS PROBE MONITORING WELL LF5GP-6 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 5
DATE COMPLETED 08/13/97
LOCATION: FORT CARSON CO
PERMIT NO.

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: NOT ENCOUNTERED



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)

REFERENCE MEASURING POINT LOCATION/DESCRIPTION:

DEPTH TO WATER AFTER COMPLETION:

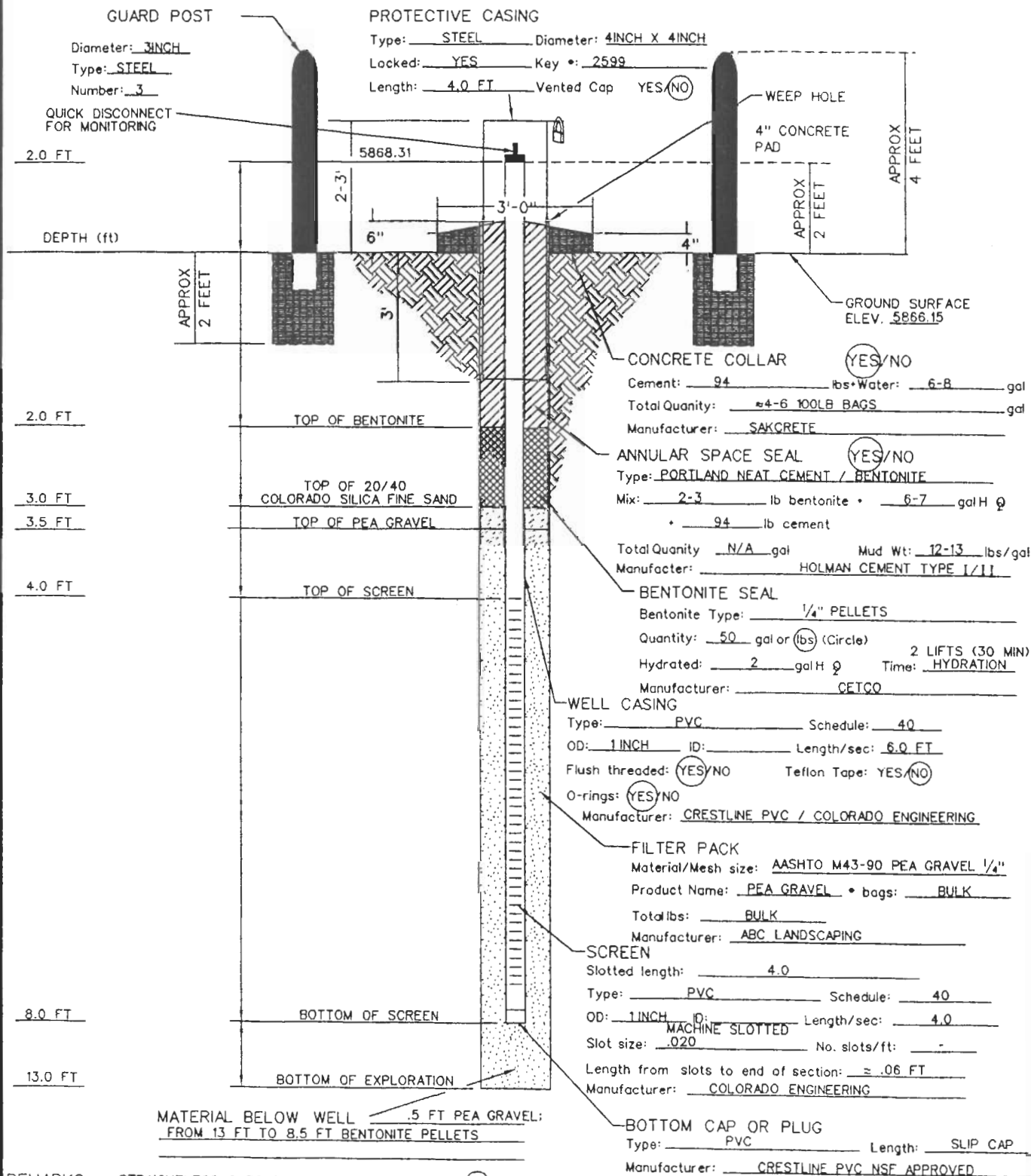
SIGNATURE OF PREPARER

NOT TO SCALE

GAS PROBE MONITORING WELL LF6GP-1 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 6
DATE COMPLETED 08/18/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: ~9.0 FT



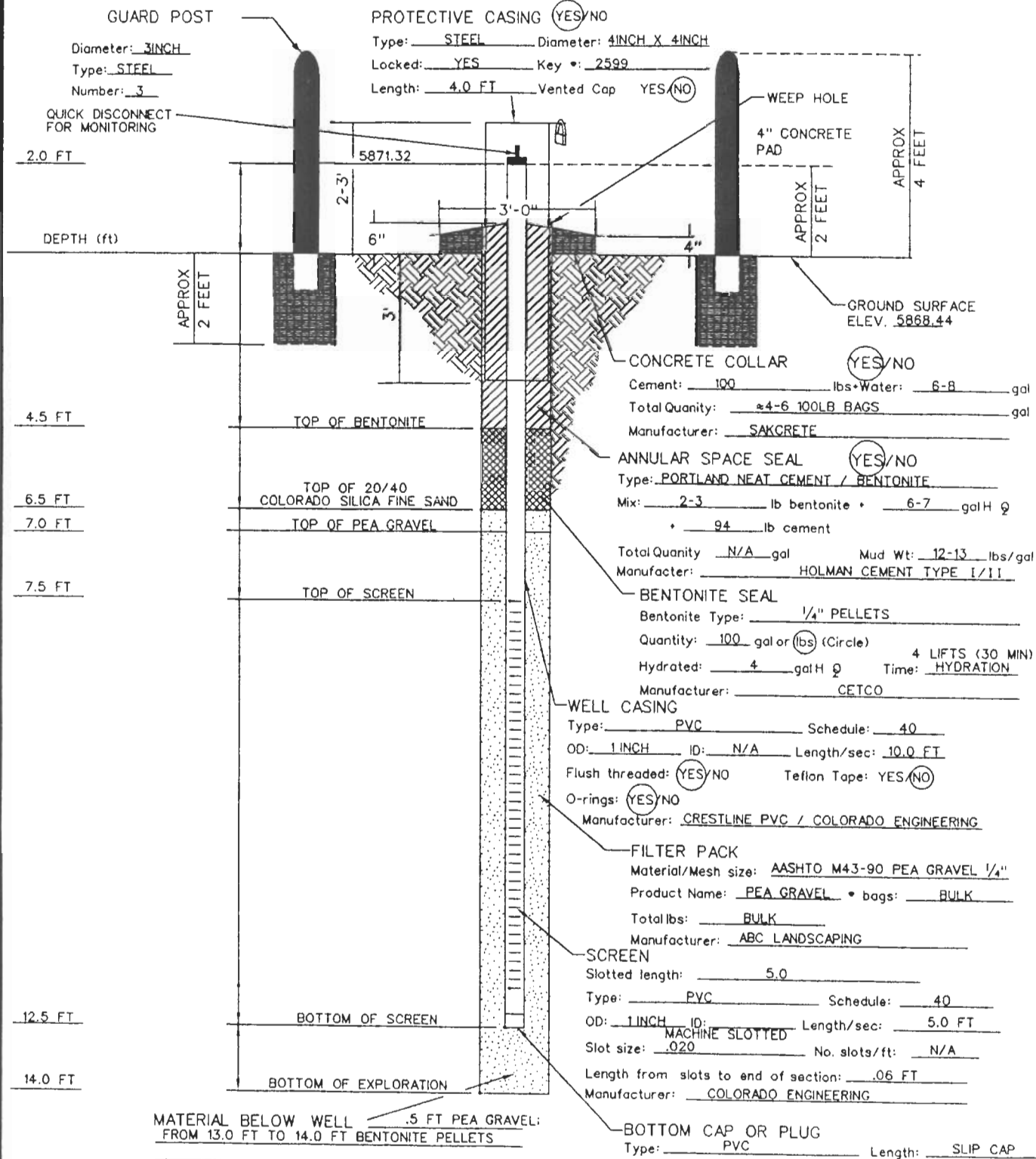
REMARKS: STRAIGHTNESS CHECKED OK - YES OR NO
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
DEPTH TO WATER AFTER COMPLETION: ~
SIGNATURE OF PREPARER _____

NOT TO SCALE

GAS PROBE MONITORING WELL LF6GP-2 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 6
DATE COMPLETED 08/18/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: ~12.0-13.0 FT



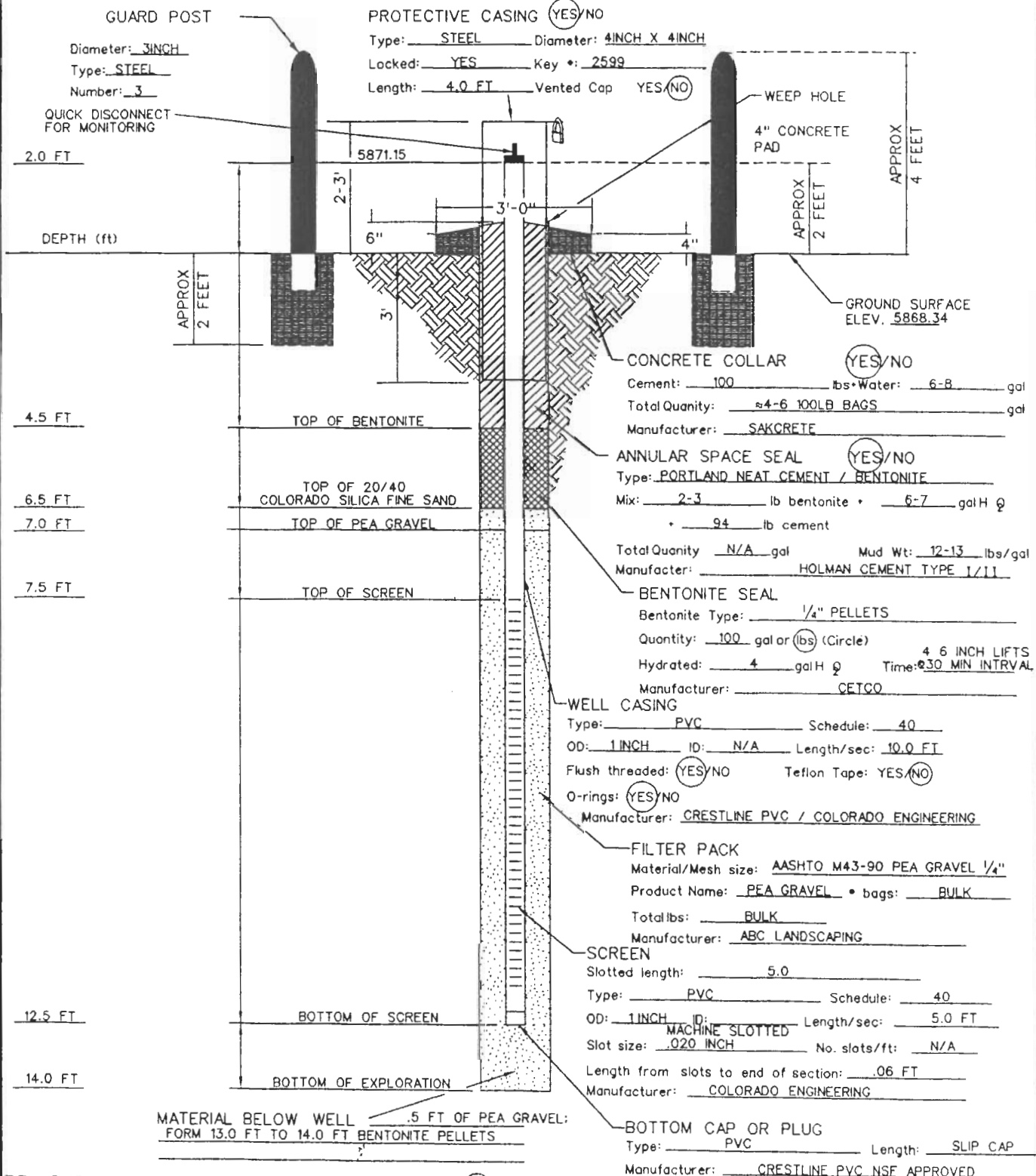
REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
DEPTH TO WATER AFTER COMPLETION: ~
SIGNATURE OF PREPARER _____

NOT TO SCALE

GAS PROBE MONITORING WELL LF6GP-3 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 6
DATE COMPLETED 08/18/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: ~12.0-13.0 FT



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
DEPTH TO WATER AFTER COMPLETION: ~
SIGNATURE OF PREPARER _____

NOT TO SCALE

GAS PROBE MONITORING WELL LF6GP-4 ABOVE GROUND WELL COMPLETION DETAILS

PROJECT: LANDFILL 6
DATE COMPLETED 08/19/97
LOCATION: FORT CARSON CO
PERMIT NO. _____

DRILLING METHOD: 4.25 INCH ID HOLLOW STEM AUGERS
DRILLING COMPANY: SITE SERVICES
FIELD GEOLOGIST: J. GILLESPIE
DEPTH GROUNDWATER ENCOUNTERED: ~10.5-12.0 FT

GUARD POST

Diameter: 3 INCH
Type: STEEL
Number: 3

QUICK DISCONNECT FOR MONITORING

PROTECTIVE CASING YES/NO

Type: STEEL Diameter: 4 INCH X 4 INCH
Locked: YES Key #: 2599
Length: 4.0 FT Vented Cap YES/NO

WEEP HOLE

4" CONCRETE PAD

APPROX 2 FEET

APPROX 4 FEET

DEPTH (ft)

2.0 FT

3.0 FT

3.5 FT

4.0 FT

8.5 FT

15.0 FT

5872.32

2'-3"

3'-0"

6"

4"

GROUND SURFACE ELEV. 5869.60

CONCRETE COLLAR YES/NO

Cement: 100 lbs Water: 6-8 gal
Total Quantity: ~4-6 100LB BAGS gal
Manufacturer: SAKRETE

ANNULAR SPACE SEAL YES/NO

Type: PORTLAND NEAT CEMENT / BENTONITE
Mix: 2-3 lb bentonite + 6-7 gal H₂O
+ 94 lb cement
Total Quantity N/A gal Mud Wt: 12-13 lbs/gal
Manufacturer: HOLMAN CEMENT TYPE 1/II

BENTONITE SEAL

Bentonite Type: 1/4" PELLETS
Quantity: 50 gal or (lbs) (Circle)
Hydrated: 2 gal H₂O Time: 2 6 INCH LIFTS
30 MIN INTERVAL
Manufacturer: CETCO

WELL CASING

Type: PVC Schedule: 40
OD: 1 INCH ID: N/A Length/sec: 6.0 FT
Flush threaded: YES/NO Teflon Tape: YES/NO
O-rings: YES/NO
Manufacturer: CRESTLINE PVC / COLORADO ENGINEERING

FILTER PACK

Material/Mesh size: AASHTO M43-90 PEA GRAVEL 1/4"
Product Name: PEA GRAVEL • bags: BULK
Total lbs: BULK
Manufacturer: ABC LANDSCAPING

SCREEN

Slotted length: 4.5
Type: PVC Schedule: 40
OD: 1 INCH ID: N/A Length/sec: 4.5 FT
Slot size: .020 INCH No. slots/ft: N/A
Length from slots to end of section: .06 FT
Manufacturer: COLORADO ENGINEERING

BOTTOM CAP OR PLUG

Type: PVC Length: SLIP CAP
Manufacturer: CRESTLINE PVC NSF APPROVED

APPROX 2 FEET

TOP OF BENTONITE

TOP OF 20/40 COLORADO SILICA FINE SAND

TOP OF PEA GRAVEL

TOP OF SCREEN

BOTTOM OF SCREEN

BOTTOM OF EXPLORATION

MATERIAL BELOW WELL .5 FT OF PEA GRAVEL:
FROM 9.0 FT TO 15.0 FT BENTONITE PELLETS

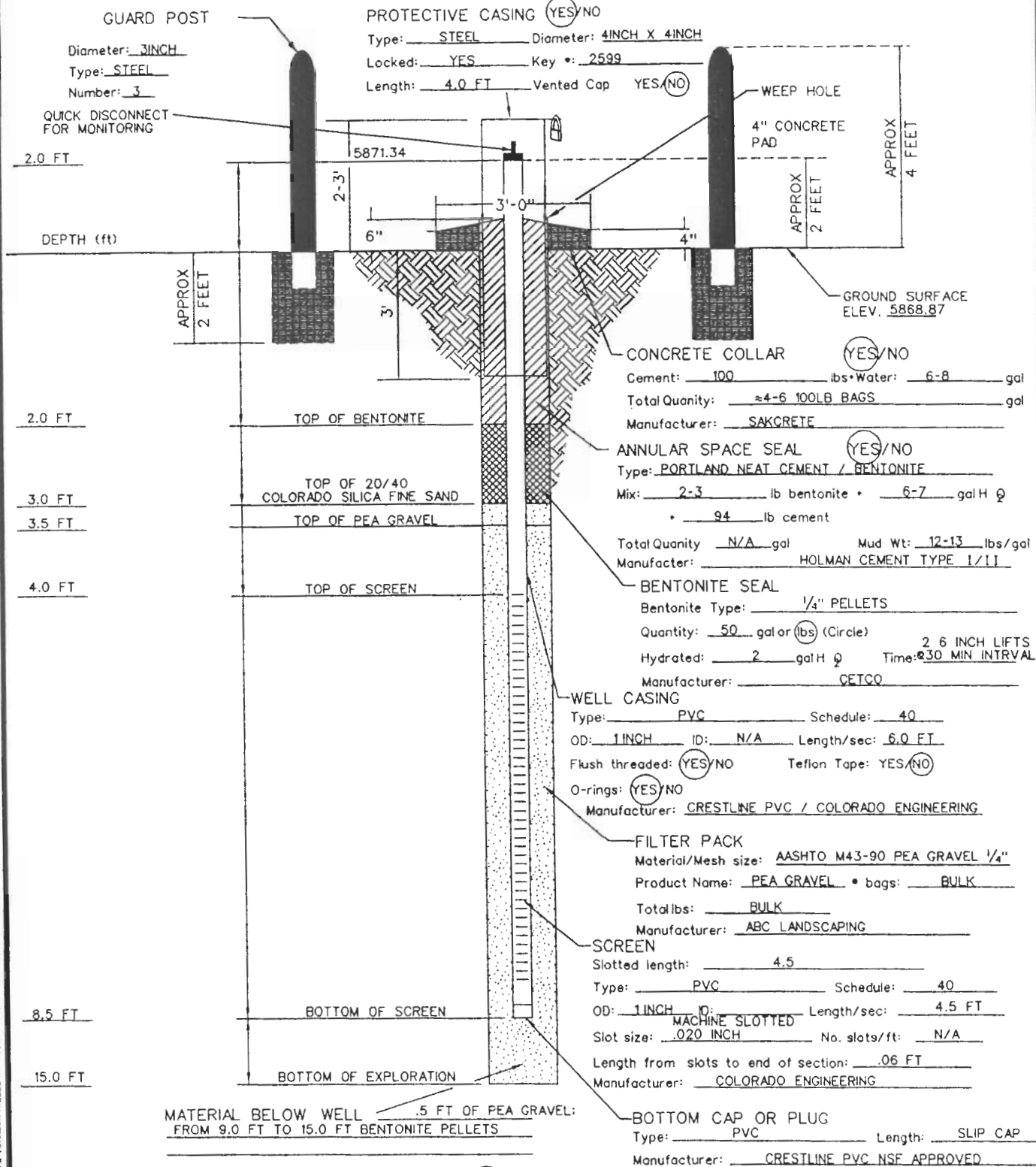
REMARKS: STRAIGHTNESS CHECKED OK - YES OR NO
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
DEPTH TO WATER AFTER COMPLETION: ~
SIGNATURE OF PREPARER _____

NOT TO SCALE

GAS PROBE MONITORING WELL LF6GP-5 ABOVE GROUND WELL COMPLETION DETAILS

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DEPTH GROUNDWATER ENCOUNTERED: ~10.0 FT



REMARKS: STRAIGHTNESS CHECKED OK - YES OR (NO)
REFERENCE MEASURING POINT LOCATION/DESCRIPTION: GROUND SURFACE
DEPTH TO WATER AFTER COMPLETION: ~
SIGNATURE OF PREPARER _____

NOT TO SCALE